ELEMENTARY ECONOMICS

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PART I

(PRODUCTION AND PRICE)

BY

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TO
MY ELDEST CHILD
BELA

PREFACE

This book is prepared in response to a demand of the Board of Studies in Economics, Calcutta University, for a simple work on general principles of Economics, which will be at once suitable for beginners and intelligible to general readers. Although there are several books on the subject some of which meet the requirements of the Intermediate students fairly well, very few of them are written professedly from the Indian point of view. Most of our students have not the knowledge of modern industrial conditions which is assumed in the books intended for their compeers in the West.

An attempt has been made in the following pages to present the subject with the Indian outlook in the background so as to kindle in our students a lively interest in the subject and awaken in them a desire to better the economic condition of their mother country. How far I have succeeded in the attempt, is for my readers and fellow teachers to judge. My request to them all is to help me by pointing out passages that may be difficult for beginners to follow and offering any suggestions for improvement.

The book claims no originality. It is a work of mere exposition. I have made free use of ideas from many economists, and although my obligations to them are not individually acknowledged here, my debt of gratitude to them is immense.

P. C. GHOSH.

PUSPASREE HOUSE,
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September, 1937.

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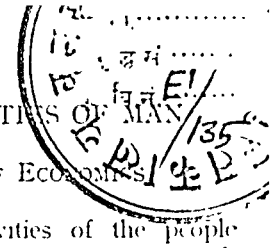

CHAPTER I

THE ECONOMIC ACTIVITIES OF MAN

THE SUBJECT MATTER OF ECONOMICS

Let us look into the activities of the people around us. Some labour with hands, some work with brains, and most men toil with both. But the motives behind their work are different. Housewives are busy feeding or cleaning; children are busy eating or playing; fashionable ladies are busy gossiping or dressing. Boys sweat their bodies for health, sports or recreation. Students read hard for knowledge or examination. Politicians labour for political rights and wellbeing. Philanthropists work for relieving human suffering. Educationists work for men's intellectual improvement; reformers for their moral advancement. Most men spend a part of their time and life in prayers and pilgrimage. In all these activities the motive for work is not money. But today most people in our society work a large part of their time in earning and spending a money income. Those activities of men that are devoted to earning and spending a money income are what we call economic activities.

But money, as we know, is not an end. It is only a means to the various ends of our life. We want money for purchasing commodities and services of various kinds. We want commodities and services as the necessary means of our subsistence, of living in ease and comfort, or of maintaining a standard of living. Things that we need, however, do not all

require efforts to acquire them. Certain things like air, water and sun-shine are free gifts of Nature. They do not call for man's activities. But most other things that we want and desire cannot be obtained without effort. Food and clothing, furniture and houses are not gifts of God or Nature. Labour and toil are necessary for making them. Man must work to obtain all these means of satisfying his wants and desires, that nature has not supplied him sufficiently. This insufficiency in Nature's supply of goods required by man is what economists call scarcity. Economic activities may, therefore, be regarded as the efforts of men that are called forth by the scarcity of the means of satisfying their wants.

Wants, no doubt, impel us to activities. But it is the scarcity of the means of satisfying the wants and not the wants themselves which moves us to efforts for satisfaction. Scarcity affects our activities in two ways. First, it forces us to avoid waste and make the best possible use of the limited means at our disposal. Secondly, it makes us work with a view to increase the quantity and thus make good the insufficiency of the means of satisfaction. So it is clear that economic activities are mainly of two kinds. First, we use these scarce means so as to bring us as much satisfaction as possible to each and all of our wants. This is what we call " economising ": we never care to economise things which we have in plenty. Let us think of the buckets of water quarrelsomely collected by a bustee woman in a town, or of the pitchers of water labouriously drawn and carried by village girls from a distant well or tank or river: let us then think of the waste of water in a wealthy

household by its servants. The truth will be apparent. Secondly, we proceed to increase the quantity of scarce goods; we try to obtain more of food crops by cultivation, or of fruits by gardening.

Now the scarce means of satisfying man's wants is known in economics as *wealth*. Economic activities may also be defined, therefore, as the efforts of men that are devoted to the acquisition and careful use of wealth.

Economics is the science that studies these activities. The subject matter of Economics is, therefore, the activities of man that the scarcity of the means of satisfying his wants provokes or makes necessary. It is important to remember here that activities and wants refer to those of men who live in society, and not of men who live a lonely life like the Faqirs or Sanyasins. There is a difference in the character of men's wants according as they live in a community or away from it. A Robinson Crusoe may live on any kind of food, but a civilised man in every society takes only such food as is customary to his class or caste. An Englishman eats bread, while a Bengali prefers rice. This is not only true of food, but of almost every kind of goods. Why does a man wear trousers or *dhooties*, and a woman gowns or *sarees*? If you look at the peculiarities of food, drink, clothing and shelter among the different nations of the world, you will notice that there is a group standard or fashion that rules them. That is to say, our wants today are mostly socialised. Even our elementary wants we do not and we dare not satisfy with any and every possible means of satisfaction. We are to conform

to the habits or customs of the particular class of society we belong to. A Hindu would not eat beef nor a Mahomedan pork even on pain of starvation. There are, however, others who relish them. Our tastes and desires are formed on a social standard and we cling to them throughout our life.

The subject matter of Economics, therefore, is the activities of men in society, that are called forth by the scarcity of the means of satisfying their wants.

Most men in society today work directly for a money income, because it brings them wealth, i.e., the means of satisfying desires, that are scarce. That is why economic activities may be shortly described as men's efforts related to earning and spending a money income.

Chapter II

RELATION OF ECONOMICS TO OTHER SOCIAL SCIENCES

In the last chapter we distinguished man's activities in so far as they are actuated by motives of earning and spending money, or in so far as they are stimulated by the scarcity of the means of satisfying his wants and desires. Let us now look upon man's activities from a different point of view. We can think of the activities of a man in his relation to other men in society. First, he is a member of a family; he is related by blood or marriage to other members; he is bound in ties of love and duty to them as a son, husband, father or brother. Unless the members recognise these mutual obligations and respect them in their observance, family life would be impossible. Individual interests, personal likes and dislikes are always subordinated to the honour, prestige, tradition or general interests of the family. Some of our activities are thus due to our family relations.

Secondly, a man is an inhabitant of a village or town, a member of a caste or a tribe, belonging to a particular race or religion. It brings him certain privileges. But it imposes on him certain obligations also. He must observe certain taboos. He must not rob a neighbour of his property or child. He must not cheat a fellow member, nor hurt his body, his honour, his feelings or interests. But he enjoys in return greater peace and security. He is considerably relieved of the toil and anxieties that are

otherwise necessary to protect his property and family.

With the observance of these taboos, individuals find it possible to live together in groups. Former enemies turn friends. Members of the community cease to be indifferent to the misfortune of any among them. They co-operate with him to keep off all that seek to do him harm. They offer him sympathy in hours of trouble. They help him in his distress. As spheres of co-operation extend and ties of sympathy grow stronger, the protection of life and property belonging to his family becomes more effective, and much less toilsome at the same time. Individuals need not always keep watch or singly offer defence against robbers and thieves. Much toil and time are thus saved of every member, and he can turn them to longer leisure or to more economic activities and greater means of well-being. This is the great benefit that we derive from living a group life, from living in a community. It is now easy to see how many of our activities are due to the various relations we have with other members of the community and how they lessen our labour and contribute to our common welfare. Ethics deals with these rules of living and prescribes such conduct as is conducive to our general good.

Ethics recognises that man is more than a mere animal; he is a higher being. Man is not content with the mere satisfaction of the wants of his body. He has a mind and soul which seek higher ends and aspire after nobler ideals. Our codes of conduct have, therefore, to be conducive to the higher form of our life. Our behaviour should help us to realise the

nobler desires of men, as higher beings than birds or beasts. Ethics sets up these ideals of life and determines the codes of conduct appropriate for their realisation. Let us remember that without some such rules of morality or ethical codes of conduct, however elementary, no family, no village system, no form of social life could possibly evolve and develop.

From what we have considered above it will be clear that our welfare depends also on our conduct and behaviour to each other. Economic activities that bring us wealth and ease are not the only activities essential for our well-being. Ethical activities are equally important for our welfare. Nor are these all. Some of our fellow members may be evil-minded. They may violate our rules of morality. They may do things which would make it impossible for families to live in peace, friendship and happiness. They must be prevented from doing them. Otherwise it will not be possible for us to maintain society and all those amenities of life that we derive from it. Again, we are not to forget that the whole of mankind has not yet formed such an ideal brotherhood that every man equally loves every other. There are gradations in the bonds of sympathy, friendship and love with each other. Usually ties of sympathy get looser, the larger is the group of which one is a member and the more remote is one's relation to it. This is the reason why one is apt to quarrel more easily with the members of a different family or village; why one community or country fights more readily against another instead of settling their disputes amicably.

Our welfare obviously depends upon living in peace, both at home and abroad. We require protection from foreign invasion. We need equally protection of our life and property from internal disturbances. To secure this protection people submit to a political organisation known as the State. The executive agency of this organisation is called the Government. Activities of the people that are directed towards maintaining the State and running its Government are termed political activities. They arise out of relations between the people of a society and its political organisation viz., the State and the Government.

Evidently man's activities are many and various. This is because his motives are many and his relations with other men are various. The science that deals with the entire range of activities of men in society at different stages of civilisation, arising out of different motives and in different relations of life, is called *Sociology*. Economics is thus a branch of Sociology. Politics and Ethics are also branches of it; and there are many other branches.

Economics hence may be regarded as a science of human welfare. Its aim is to secure the welfare of men in society. The aim of Politics or Ethics is also the same. They too are sciences of welfare. But the fields of their study are different. Economics studies welfare in so far as it is attainable through wealth. We have already seen that our welfare depends also on the moral conduct and relations between individuals in society. It is thus clear that there are other requisites of well-being besides what we call wealth. Health and beauty, love and intellect, conduct and

character, peace and security are some of the many other things that are essential for our welfare.

The science of medicine contributes to our welfare by improving our knowledge of health and of things that can cure our disease. Aesthetics promotes welfare through beauty, and education through intellect. Ethics secures welfare by improving conduct or by developing character, and Politics by the maintenance of peace and order. Most of these requisites of well-being, however, involve the aid of external goods and call for economic activities. Thus health needs medicine, medical men, chemists and hospitals. Education requires books, authors, teachers and libraries. Peace and order demand police, prison, soldiers, forts, guns and gunpowder. This inter-relation between economic and non-economic activities and hence between economics and other fields of scientific study we should never forget.

Man, as we have already noticed, is not content with a mere animal existence. We want to live a life that is fully expressive of our higher ideals and tastes. Our thirst for love, beauty and knowledge is unlimited, and our tastes and desires frequently change. Living involves the continuous satisfaction of these changing tastes, both higher and lower. This fullness of life in complete satisfaction of all our tastes and ideals is what we call welfare. Economics, let us repeat, studies welfare in so far as it depends on wealth. It studies wealth in so far it serves as a means to the welfare of man in society. It studies human activities as far as they are necessary for wealth and welfare. These inter-relations between "Work, Wealth and Welfare" or "Wants, Efforts

and Satisfaction" of men who live in society are carefully studied by the Science of Economics. The relation of Economics with other branches of social science thus arises out of the dependence of the non-economic activities upon the economic. It is due to the inadequacy of the non-economic means to contribute to human welfare to the fullest extent without the assistance of wealth.

Chapter III

ECONOMIC ORDER

The elemental wants of mankind—the need for food, clothing and shelter—are, no doubt, always and everywhere almost the same. But the way in which man seeks to satisfy them differs, as the environment in which he lives and the knowledge he has of this environment differ. Ages ago this world of ours was very different from what it is now. It was very wild and thick forests covered most of it. Animals much bigger than elephants and much fiercer than lions and tigers roamed and dominated it. Men were few. They were very poor, very wild and very savage. They were all hunters. They ate the flesh of the wild animals and used their skins for clothing. They lived in caves or in the hollows of trees to protect themselves from snow or storms and also from the wild animals. The life of a hunter, however, is always hard and dangerous. The hunter may go for days without killing an animal. This means starvation for himself and his family. At any time a fierce beast or a stealthy snake may kill him. There is another difficulty—an economic one. If he hunts the animals too much, they become fewer. Those which are left go to thick forests where it is hard to follow them. He knew not how to make fire, how to cook food, how to utilise forests for food, clothing or shelter. His environment and the state of his knowledge about it explain why the hunters could not live together in large groups of many men.

Men realised gradually all these difficulties of a hunter's life, and began to think how to get over them. The difficulties made them think, thinking made them more observant, and observation increased their knowledge. They found that some animals were easy to catch and they could give them food and wear. Thus they caught sheep and goats: tamed and kept them. This made their life more secure and less poor. An unsuccessful hunt did not make them starve and hunting was not needed any longer for subsistence. The rearing of animals instead of hunting them solved many difficulties. It made possible for them to store food and save for to-morrow. It enabled them to meet their future wants. It changed them into economic animals. At first they wore the skins of the sheep which they killed for food. But as time went on they learnt to spin the wool and to weave it into cloth. With this cloth they made far better clothes than ever before. In course of time they caught and kept not only sheep and goats, but many other animals, such as pigs, cows, horses, dogs and fowls. The horses carried them far and wide, and other animals gave them different kinds of food and service. Men were no longer hunters. They became shepherds and herdsmen as well.

In their ceaseless process of looking about and learning things, men found that they could obtain their food from some of the wild plants of the forest as well. They gathered nuts, apples and berries. They ate what they needed, and stored up the rest. They learnt how to provide for the future. Then they found the plant of wheat. They discovered that the grains of wheat were good to eat and one of the grains

would grow a plant bearing many grains. Then men began to plant fields of wheat. They soon found other food plants like rice and rye. Some men tilled the ground and grew these plants in their fields. In this way some of the men became farmers.

While men procured their food and clothes by hunting or by rearing sheep and cattle, they had to live, more or less, a nomadic life. For games became rare through constant hunting, and grass grew scanty through continuous grazing at one place. So people had to move to new places frequently; they could not otherwise obtain sufficient game to hunt, or grass for their cattle. But with the discovery of farming, they could live and they had to lead a more settled life. They had to stay near their farms to till the fields, to grow the plants, to protect them from birds and beasts, and to take care of them continuously till the harvest was reaped and thrashed and stored into barns. All this requires a pretty long time. So a settled life of men began to appear with the growth of farming and agriculture. And with it the growth of civilisation.

At first men probably tilled the ground with sharp-edged stones fastened to sticks with pieces of hide. They were, of course, poor tools in comparison with iron ploughs. Iron ploughs came into use much later, after the discovery of fire and iron. With an iron plough a man could till his field more easily and quickly. He could raise more and better crops. This would lead to a general demand for ploughs by farmers. Men who could make ploughs now gave up farming and became plough-makers exclusively. The farmers gave them all that they needed of land produce in exchange for ploughs.

More produce than even before that ploughs now raised, enabled the farmers to spare some food and raw materials. With this spare produce they could set some men to work for them. More and more land was now tilled, and more and more food and other produces were now raised.

The improvement of agriculture by which land could produce much more than what the actual cultivators needed for food and clothing and shelter lured powerful chiefs and robbers to seize lands and commandeer the surplus produce. They became land-lords, and cultivators were turned into serfs and villeins.

The rich farmers and land-lords who had much produce to spare naturally wished for newer goods and better things. Thus they wished to live in better houses. Some men who were skilful at building houses now gave all their time to this work.

Perhaps they also wished to have more and better clothes. Some people now gave their whole time to spinning wool or cotton, weaving cloth and making cloth into clothes. People, specially of cold countries, also needed boots and shoes, and some men thus became shoe-makers. Some men similarly turned smiths, potters, carpenters and other professional workers.

The men who made tools, houses, clothes, furniture, utensils or shoes, had to settle down in some place where they could meet the farmers and shepherds whenever they needed. Villages took their rise in some such way.

The farmers found it convenient to bring their food or flax or cotton to a place and barter it for the things which they needed or for the work which they

wanted to have done. The place to which they habitually came thus became a market, the meeting place of farmers and other producers for the exchange of their respective goods and services.

With the growth of villages and markets, there arises an economic order in which each village by itself or a cluster of several villages forms a self-sufficient economic unit. Here in the agricultural stage all the different needs of the people included in the unit are satisfied by their combined activities. Hence the unit as a whole is self-sufficient. But the individual families comprising the unit cease to be self-sufficient, as they were at the time when they met their wants by hunting animals or by rearing cattle. Here then begins a new order in which the self-sufficiency of a family as an economic unit breaks up. Each family produces largely for others and also depends upon them largely for satisfying its needs. The different families composing the village knit themselves in co-operation for meeting their common needs. They confine themselves each to one kind of work, such as farming, spinning, weaving and making of shoes, houses, pots or ploughs; as it enables them to make more things within a given time or to make these better. The division of occupations and inter-dependence of families characterise this new order of village life. The loss of the self-sufficiency of families and their dependence upon each other to meet their wants distinguish this new order from the primitive life of hunters or shepherds that it superseded. Many of our Indian villages, a few decades ago, were self-sufficient economic units of this kind.

In this order each village supplied its own needs and agriculture was the primary industry in society.

The land produced practically all the goods that village men needed. The most influential class was, therefore, the land-lord and the most important of all classes industrially was the cultivator; the artisans occupied a less prominent place. The key to power, both political and economic, was land. All the lands belonged to the king who distributed them among his chieftains on condition of military and other labour services. These chieftains in their turn gave their lands to other men and so on. The whole of society from the king to the cultivators of soil was thus bound together, politically and economically, for defence and for livelihood, through the holding of land. The cultivators had no rights over the land they cultivated or its produce. They produced for the benefit of their landlords. This order of things is known in history as the feudal system.

With the evolution of markets there appeared a special class of dealers now called traders, who made it their special business to take away the surplus product of one village to another distant village or a town where a ruling chief or a powerful man lived. In course of time when the sale and purchase of goods were made with precious metals or money, these traders sent and sold merchandise of one country or continent to another. The increasing trade and commerce gave them wealth and with wealth came power. With this wealth and power they purchased or wrested economic freedom from the feudal lords, and they set up towns where they could sell, purchase and manufacture, free from all kinds of bonds and restraints that shackled the serfs and villeins in agriculture. What is more, they instituted a system of money payment and money-exchange in place of

labour services and barter. This economic freedom and the use of money paved the way for the present economic order.

In the feudal system, the economic units were small, but self-sufficient. In the present order, the economic order that prevails today, no village or town is self-sufficient; not even a country as big as the U.S.A. or India. Every country in the world depends today upon a number of others for the satisfaction of its wants. This has come about gradually with the increasing economy of large scale production and the growing knowledge and power of man over nature, through his mastery over force and matter, by his conquest of space, climate and hunger. The whole world is connected today by very rapid means of communication. Fields or forests or rivers cannot now separate villages, nor can oceans and mountains isolate countries. Trains and steamers, motorcars and aeroplanes now carry men and goods from one part of the world to another in an incredibly short time. Man has economised his labour with machines. The production of food no longer absorbs most of his activities. Manufacturers provide the bulk of his consumption. Land has thus lost its supremacy as a requisite of production; money and machinery have taken its place. Machinery has enormously increased the productive capacity of man and hence it now dominates over land and labour in almost all branches of production. The dominating class in society today is thus not the land-lord, the owner of lands, but the capitalist, the owner of money, machines and other goods that aid and support man in production and which we call capital. The present

order is hence called the capitalistic system. Pr duction is now largely controlled by these capitalists.

The main features that distinguish the present capitalistic system from the feudal lie in the following. A country has ceased to be self-sufficient economically. It has begun to depend upon the industry of other lands and upon trading with them. A man does not make the goods that his family needs, but the goods that will bring him money to buy its requirements. He produces goods neither for his family nor for the people of his village but for men that are unknown and for markets that are far away. A producer's output is now larger and his market much bigger. He needs more capital, for production as well as for sale. For production he thus depends today mostly upon the capitalist and not upon the land-lord. He can continue production only so long as he can earn an adequate interest or profit for his capitalist. His livelihood consequently depends upon his capacity of earning a profit for his capital-lord. Production, in other words, is wholly guided today by the prospect of profit. These are the main peculiarities of the present economic order in which we live and work. As men do not directly produce the goods they want and depend for their satisfaction on the money they make out of their property or labour, the present system of economic arrangement has a two-fold task to perform. On the one hand, it must produce goods and services that people need; it must provide for all classes of the community the means of livelihood and the tools and materials for their work. On the other hand, it must provide the money incomes with which they can buy these goods and services.

Chapter IV

SOME FUNDAMENTAL CONCEPTS

Any systematic study is called a science. The science of Economics is also a study. It studies, we have seen, activities of men living in society in so far as they are called forth by the scarcity of the means of satisfying wants and desires.

Any means of satisfaction is called a *good*. Goods are things that are desired by men, i.e. all things that have the capacity to satisfy human desires. The capacity of satisfying desires is called *utility*. Goods then are things that have utility.

Wealth, we have already noted, denotes scarce means of satisfying wants and desires. *Scarce goods* are, therefore, wealth. Goods, if abundant, are not wealth. Thus air and sunshine are not wealth; but they are goods, for they are desired by men. Wealth, therefore, consists of things that have utility but are scarce or insufficient in quantity to meet our needs.

The need for economic activities or efforts arises from the insufficiency of wealth, from the scarcity of goods. Economics, therefore, also studies wealth. It studies wealth from the standpoint of its insufficiency to satisfy our wants. Wealth again consists of things which are the result of efforts. Goods which are abundant and hence do not evoke man's efforts are not included in the definition of wealth. We should, therefore, not only look upon wealth as the means of satisfaction that are scarce, but also as goods which are the product of efforts.

Wealth is a means to welfare. But it is not the only means, for welfare comprises many desires and ideals that wealth cannot gratify. This we have already discussed in Chapter II. Wealth nevertheless is a very important means to welfare. Hence Economics also studies welfare, but only to the extent that it depends on wealth. Welfare attainable through wealth is called economic welfare.

A science, let us remember, studies facts, events or phenomena with a purpose. The ultimate purpose is to explain them, to trace their causes and effects. But before we can explain, we must know them intimately. To gain this knowledge science seeks to discover uniform tendencies or relations between them. Shortly, science studies events with a view to discover some uniformity or general tendency in them. This uniformity or general tendency is called a law in science. A science thus studies events or phenomena with a view to discover *laws*. A scientific law is the statement of uniformity or general tendency that we observe in a phenomenon. Thus the law of gravitation is the statement of the general tendency of all material bodies to fall to the earth.

Economics, as a science, must then study economic events with a view to discover *laws*, uniformities or general tendencies in them. Economic laws are the uniformities or general tendencies that we discover in economic events and phenomena. Economic events comprise man's desires satisfiable by some external means, his efforts to satisfy them, acquisition of wealth by efforts, and use of wealth in satisfaction of wants and desires. One branch of Economics studies the nature of economic wants and

the use of wealth towards their satisfaction: this branch of economic study is called Consumption. Another branch of Economics is known as Production it studies the nature of economic efforts and the ways of getting wealth with them.

We should remember in this connection that man cannot create matter; nor can he destroy it. He can only change the form of matter, turn it into shapes or forms that are more useful, as in making cloth out of cotton; or he can put it in a way that nature makes it more useful, as in sowing seeds for growing rice or wheat. So when we speak of creating wealth (or increasing it), we really mean re-shaping matter into a more useful form or placing it in a position whence it grows more useful. Production in Economics thus means not the creation of matter, but the increment of utilities and satisfaction. Consumption in Economics similarly relates to the decrement of utilities by enjoyment or use and not to destruction of matter.

Production generally covers three forms of efforts. First, it puts natural goods to forms or ways that are more useful: all industrial activities that grow plants, extract minerals, rear animals or turn out goods belong to this group. Secondly, it sends a commodity from a place where it is less wanted to a place where it is more eagerly desired. Or, it transfers goods from a man who needs them less to men whose wants are keener. It thus increases their utility: the services of merchants or middlemen and transport agencies like coolies, carts, boats, railways and aeroplanes come under this classification. Thirdly, it puts away goods when they are abundant and stores them for use at a time when they will be scanty or scarce. It increases,

in this way, the total satisfying capacity of the goods consumed, their aggregate utility: activities connected with the storage of produce fall under this division.

Let us now consider how we satisfy our individual wants. Let us recall the different things we want from morning till we retire: washing water, tooth paste and brush, different articles of dress we wear, food and drink we take, books we read, means of transportation we use, music and amusements we enjoy. How few of them we produce with our efforts directly, if at all? You do not produce rice or bread you take, shirts or coats you wear, shoes or slippers you put on, or chairs or tables you use. Some men must have produced them directly and your father has procured them for you. It shows that people today do not satisfy their wants by directly producing the goods they require. The farmer produces rice, the weaver weaves cloth, the carpenter makes furniture, not for himself but for others. He then *exchanges* it for the articles he wants; all his wants are thus satisfied indirectly by the exchange of his product for the products of others. The cultivator sells his rice for money; with the money thus obtained he purchases napkins and loin-cloth for himself, sarees for women folk, oil for cooking and lighting his earthen lamps; with money he obtains fuel, utensils and other requirements of his family. This is the modern condition. But there was a time in the history of man's civilisation when every family had to produce all it wanted directly. Experience has taught men (living a group life) that they can enjoy things in a greater quantity, in a greater variety, and of a better quality, if each of them pursues a single profession or occupation and produces only one kind of things, than

if they attempt to produce all their requirements individually. So there has come into being a social order, an economic arrangement, in which individuals take to one occupation only. They *specialise*, in the economist's language, in the production of only one kind of things. Then they exchange the products of their labour with each other. Exchange is thus the essential handmaid of individual specialisation. Wants cannot be satisfied in any other way under this arrangement of production.

The exchange of wealth produced is, therefore, an important class of economic events. The study of Exchange thus forms another branch of economic science.

When goods are exchanged, how much of one thing can be obtained in exchange of another becomes an important consideration with every man, producer or consumer. The terms Exchange-Value and value-in-exchange, or simply Value of a thing denote the quantity of other things that a given quantity of it will buy. Suppose 2 eggs are exchanged for 2 *rasagollas* or 4 mangoes or 8 pieces of cake. Then the value of one egg is one *rasagolla* or 2 mangoes or 4 pieces of cake. Similarly the value of 4 mangoes is 2 eggs = 2 *rasagollas* = 8 pieces of cake. The value of cakes can be found likewise. This means that there are as many values of a thing as there are other commodities in the market for the purpose of exchange. But happily commodities are not exchanged today directly against each other; they are exchanged for money. The money value of a commodity, that is to say, the amount of money for which it is bought or sold is called its *price*.

The direct exchange of goods for goods is called barter. Barter, many believe, had been common as the primitive form of exchange before men learnt the use of money and discovered its advantages. Barter must have proved very inconvenient for the exchanging parties: they could not acquire the things they wanted nor could they dispose of their products, unless each of them had exactly the thing that the other wanted. Suppose the cultivator had rice and the potter earthen-ware. Exchange between the two was only possible when the potter wanted rice and the cultivator earthen-ware. If the cultivator wanted cloth which the potter could not give or the potter required something other than rice, exchange could not take place: both of them were unable in this case to obtain what they each wanted, or to dispose of what they each produced. Exchange by barter presented another difficulty: a man, who wanted, for instance, rice, cloth and furniture and had only a cow to dispose of, could not often exchange his cow for these articles. He could not subdivide his cow and he could scarcely find any one who had all these things to dispose of and wanted a cow at the same time. The third difficulty of barter was that it had no common measure of value. We shall examine it later when we deal with money and exchange. Difficulties of this kind led to the money system of exchange. Money is what everybody wants, not to use it directly for consumption or for employment in production, but to exchange it for something else. A man can thus dispose of it at any time and in any quantity he likes. With money in hand a man can obtain anything he needs, and only as much of it as

he likes to have and at any time he requires it. Money has thus made exchange both easy and convenient.

Money-exchange has made men accustomed to the practice of valuing everything in money. It has made them look upon exchange from a new point of view. They have begun to distinguish two persons in it, the Buyer and the Seller. The buyer is the man who gives money for the commodity, and the seller is the man who gives the commodity for money. In barter, however, no man could buy a thing unless he sold another.

The more money has come into general use, the more has it come to stand in men's mind for everything else. Every man has now begun to think only how he can get as much money as possible by selling his labour or its fruits: for he is now sure that he can buy with money all other goods. The more people have begun to consider money as *the* thing to work for, the more possible has it become for each man not only to devote himself to one profession but even to one process of production. That is to say, the use of money has enabled producers to carry *specialisation* farther. A weaver's work has now been distributed among a ginner, a spinner of cotton, a weaver of yarns, a dyer of cloth and a fuller. Similarly with other trades and professions.

In the modern process of production we find this specialisation and division of occupation very much extended. Just think of the cotton shirt we wear. How many kinds of labour have co-operated in its production? To the activities of how many people do we owe the possibility of its use? Cotton for it probably grew in Egypt or in the U.S.A.; merchants brought

it to Bombay with the help of banks, insurance companies and the steamers of a shipper; spinning mills spun this cotton into yarns, weaving mills wove the yarns into cloth, fullers and dyers bleached and dyed it properly, merchants placed it in the retailer's and tailor's shops wherefrom we purchased the shirt.

The catalogue of workers to whom we are indebted for it is still incomplete. Every transfer from one type of business man to another implied a purchase and a sale; this in its turn means financial assistance from bankers, record of debts and payments by a set of accountants, legal advice and documents from the lawyers, and an elaborate organisation for sale. Every such transfer, let us further note, depended upon coolies and carts, steamers or trains supplied by other business men; and upon instructions and intimations communicated by the large organisations of the post-office, telegraph and telephone, or by pictures, posters and newspapers printed by huge rotary presses and distributed by aeroplanes and news-boys. Nor should we forget that every set of workers and every type of business indicated above depend for their services on machines; machines on metals and their makers; metals on miners and chemists, and makers on engineering science and skill; and the work of all kinds of machines ultimately depends on coal. Do you now realise how elaborate and wide has been the division of man's work for supplying a commodity ?

Most commodities are thus produced today as a result of co-operation of many men. The different kinds of materials and services that are necessary for a commodity are supplied by different groups of men. Modern economists generally classify these men under

four heads: landlord, capitalist, labourer and entrepreneur. The landlord is the owner of land and other gifts of Nature, who lends their use for purposes of production. The capitalist lends money or goods other than land and gifts of Nature. The labourer lends the use of his labour and the term includes both manual and mental workers. The entreprener comprises the class of producers who actually provide the various goods and services that people want for consumption or they themselves need for technical production. The farmers, manufacturers and merchants are all entrepreneurs. The landlord receives rent, the capitalist interest, the labourer wages and the entrepreneur profit for their respective services in production. Rent, interest, wages and profit are all paid out of the consumer's price for the commodities that are produced by the joint efforts of the landlord, the capitalist, the labourer and the entrepreneur. As the commodities produced are joint-products, their prices belong to the four classes jointly. In order that each class, that is to say, the landlord, the capitalist, the labourer and the entrepreneur may each take its own share out of their common produce or joint income, it is necessary to determine their respective shares. One branch of economics, therefore, studies the principles that determine the amount of each producer's share or income. This branch is called *distribution*.

The study of Economics is thus principally divided into four branches: Consumption, Production, Exchange and Distribution. Besides these four branches, Economics also studies the economic activities of the State which often supplement and almost always modify the activities of individuals. These we shall

consider one by one. First we shall study Consumption.

But before we proceed to study Consumption or the satisfaction of wants, let us understand what the two common terms *demand* and *supply* mean in Economics. They are used in a special sense in economic science. Demand does not mean the mere desire for a commodity. A boy may cast his longing glances at the toys displayed in a shop-window. His mouth may water at the sight of *rasagollas* or chocolates. But his desire would not mean his demand for the articles, unless he *can* pay and he *is willing* to pay the necessary price for it. That is to say, demand in Economics means not merely the desire for a commodity but the desire to have it at a given price. Now you know that we cherish various desires like the boy at the shop-window for various commodities, but their high price sometimes makes us unable or unwilling to have them. Our desire cannot ripen into demand or readiness to buy them if we consider their price to be too high. This shows that our desire to have a commodity depends upon the price at which it can be obtained. A man who cannot or will not purchase a thing at a price that he considers to be high, will, however, buy the same when the price goes down sufficiently. The amount of demand always depends upon the price of the commodity. This is why we cannot consider demand apart from price. We should always associate demand, that is, the particular amount demanded of a commodity, with a given price for it.

Supply in Economics similarly does not mean the mere availability of a commodity, but the amount

available at a given price. The amount available of a commodity depends upon the amount produced, and the amount produced depends upon price. If the price is not profitable enough for the producers, if it does not sufficiently cover their cost of production, the required amount will not be produced and hence the necessary amount will not be available for sale and purchase in a market. So we see that supply, like demand, cannot be considered apart from price. The amount supplied is always related to the price at which a commodity can be sold in a market.

Chapter V

WANTS AND THEIR SATISFACTION

We have already noticed how varied are our desires and wants, and what a vast variety of goods we require to satisfy them. We may broadly divide these wants into two classes; and similarly the commodities that satisfy them. Some of our wants are more urgent than others. They require satisfaction prior to other wants. Our hunger and thirst, for example, must be first appeased before we can think of enjoying the cinema or a concert. We must protect ourselves from rain and storm, or heat and cold, if we are to live at all. Those wants the satisfaction of which are essential for our very existence or for health, strength and efficiency in work, are called primary wants; and the goods that satisfy them *necessaries*. Other wants are called secondary wants and the commodities that gratify them are known as *luxuries*. Thus rice, wheat, cloth and houses that give us shelter against wild men and animals or against bad weather or a severe climate are necessaries, while articles that we want mainly to gratify our senses or our vanity and love of display are luxuries. Thus fragrant soaps and scents, silk, silverware, ornaments, jewels, motor cars and palatial buildings are luxuries. Sometimes we distinguish a third—another class of goods and call them comforts. The distinction between comforts and luxuries is one of degree only: luxuries are more superfluous than comforts. Comforts, if moderate, almost merge into necessaries; and comforts of

a high order can hardly be distinguished from luxuries. Thus tea, tobacco, betel leaves, soaps, tooth pastes and brushes, hair oils, combs and looking glasses, etc., are articles of comfort to Indian people. People are sometimes so accustomed to the use of some of these articles that they cannot do without them. Our peasants would go without a meal but not without a smoke. Our coolies are fast developing the habit of drinking tea, which is now already a drink that our middle classes cannot go without. Betel leaves are an article of this kind indispensable to both men and women in many provinces of India. These articles to the use of which people get so accustomed that they cannot do without them are called *conventional necessities*. For many purposes in Economics they are then included among necessaries and not among comforts or luxuries.

THE LAW OF VARIETY AND PROGRESSION OF WANTS

THE LAW OF DIMINISHING DESIRE

A study of our own wants and the past history of mankind shows that wants have a uniform tendency to grow more refined and various. The wants of the savage were few and they were very simple. With the growth of civilisation wants have multiplied gradually. As soon as man has succeeded in satisfying one want, he has invented another. This uniform tendency of the continuous growth and variety that we observe in human wants may be called the Law of Variety and Progression of Wants. Let us notice, however, that although our wants as a whole are limitless and various, there is a limit to each of our separate wants. We can satisfy our

desire for food and drink or our desire for shirts, shoes, and stockings, to such an extent that we want no more of them. One's desire for a particular commodity can be satisfied to satiety. As a matter of fact, our daily experience shows that our eagerness to have a further amount of a particular commodity grows continuously less as we have more and more of it. This tendency of our desire for a further amount of a commodity to become less and less intense with the increasing possession of it may be named the law of diminishing desire: for a law in Economics is the statement of a uniform tendency that we observe in economic events. The law of diminishing desire is the statement of the tendency of our eagerness for an additional unit of a commodity to diminish as the amount acquired of it increases.

LAW OF DIMINISHING UTILITY

Now if our desire for a further amount of a commodity gets less, its utility to us must also be less. This follows from the very definition of the term *utility*. Utility means the capacity to satisfy a desire; hence less desire for a unit of commodity cannot but mean that the capacity that we attribute to this unit of the commodity to satisfy the desire, *i.e.*, its additional utility, is less.

Let us then remember that less desire for a commodity implies that its additional utility is less. It enables us to vary the statement of the law of diminishing desire, which says:

Our desire for a further amount of a commodity gets less and less, as we have more and more of it.

We can now say instead:

The utility of an additional unit of a commodity gets less and less, as we have more and more of it.

This change in the form of the statement, however, alters the law of diminishing desire into what has long been known in Economics as the law of diminishing utility. The name of the law has to be changed with the change in the form of the statement. For, a uniform relation between the utility of a commodity and its quantity cannot be properly spoken of as a law of desire; it should be called a law of utility. So the law of diminishing utility should always be stated in the form of the uniform relation that exists between the utility of an additional unit of a commodity (and not the desire for it) and its total quantity—the utility of an additional unit diminishing with the total quantity in possession increasing. This law of diminishing utility is thus the statement of the tendency that the utility of an additional unit of a commodity diminishes, as its quantity in one's possession increases. This law should be very carefully understood and remembered. It is a very important law in Economics. You will notice that the law is based upon a fact of our daily experience, *viz.*, that our desire to have a particular commodity grows less as the quantity possessed of it increases. That is to say, it is based upon the same fact as the law of diminishing desire. But economists have found it more convenient to describe and analyse economic matters in terms of utility than of desire. Hence economists always refer to the law of diminishing utility and not to the law of diminishing desire, from which it has been derived.

Let us now illustrate the law of diminishing utility. Suppose, for instance, that cloth of a certain coarse

quality sells at 12 as. a piece. A village labourer might be willing to spend Re. 1/- or 16 as. for a single piece once a year rather than go without it. That is the maximum price he is prepared to pay for it. On the other hand, he would not care to have more than 13 pieces, even if he could get them free. But as it is, he buys only 4 pieces of cloth at 12 as. a piece. Suppose further that he would buy 2 pieces if the price were 14 as. a piece and 3 pieces at 13 as. a piece. This shows that the desire for the first piece and hence its utility to the labourer is as high as 16 as., but the utility of the second is less than that of the first: similarly the utility of the third is less than that of the second, and the utility of the fourth is less than that of the third. And as he limits his purchase to 4 pieces only at the current price of 12 as. a piece, it shows that the utility of the fifth piece to him must be less than that of the fourth which is 12 as.; otherwise he would have purchased 5 pieces instead of 4.

MARGINAL UTILITY AND TOTAL UTILITY

In technical terms, we can describe the conditions stated above briefly as follows: the marginal utility of a unit of a commodity diminishes with the increase of its amount in possession. Marginal utility refers to the desire and hence to the utility of the unit last acquired, the amount of the commodity last added to our possession. The marginal utility of a given unit means the utility or benefit or satisfaction that the acquisition of the given unit just adds. It means the additional utility, additional benefit, or additional satisfaction that the newly added quantity of the commodity brings to the consumer. Thus the marginal utility of the first piece of cloth to the labourer

(in our illustration) is the utility that it brings him, when he has none. This utility is measured by Re. 1 or 16 as., the price that he is willing to pay for the piece. The marginal utility of the second piece is the additional utility that the second piece brings to him over and above the utility he obtains from the first piece. This additional utility due to the second piece is measured by 14 as., the price he is ready to pay for it. The aggregate utility of the two pieces of cloth, the utility of the first piece together with that of the second, is called the *total utility* of the two pieces. This total utility represents the aggregate satisfaction or benefit enjoyed from the use of the two. This total utility of the two is measured by the sum-total of the marginal utilities due to the first and the second piece, 16 as. *plus* 14 as., or 30 as.

Similarly the marginal utility of the third piece is the additional utility obtained from the third over and above the aggregate utility enjoyed from the first two pieces. Here again the total utility of the 3 pieces of cloth is obtained by summing up the marginal utilities due to the first, the second and the third piece respectively. Thus the total utility of the three pieces to the labourer is equal to 16 as. *plus* 14 as. *plus* 13 as., or 43 as. In the same way we can estimate the total utility of 4 pieces by the summation of the marginal utilities of the each of the four pieces. This will come to 16 as. *plus* 14 as. *plus* 13 as. *plus* 12 as., or 55 as.

It is thus easy to see the relation between the marginal utility and the total utility of a given amount of a commodity. Let us never forget to relate utility, both marginal and total, to an amount. Otherwise it will convey no meaning. The marginal utility of

rice, tea or gold is meaningless, unless we refer it to a definite amount of the commodity. For marginal utility and total utility both vary, as the amount of the commodity acquired varies. So we can have no definite idea as to how high is the marginal utility, or how large is the total utility, unless the amount of the commodity to which we refer is mentioned.

Secondly, when we have to compare the marginal utilities of two commodities, we cannot do it without reference to their quantities. Air and water are more important for our life than butter and fish. But the marginal utility of the former is less than that of the latter, for we have an unlimited amount of air and water at our disposal, while the amount of butter or fish is much more limited. Again, when we have to compare the marginal utility of fish and butter, we have to refer to the respective amounts we have of them. Whether we should choose to have a little more butter or a little more fish, would depend upon their respective marginal utilities and hence upon the respective amounts we have of each. This is why some German economists call the marginal utility of a given amount of a commodity as its co-efficient of choice.

What is the relation between the marginal utility and the total utility of a given amount of a commodity? The total utility of a given amount of a commodity is the aggregate of the marginal utilities of each of the successive units acquired or consumed. The total utility of 5 seers of milk is the aggregate of the marginal utilities of the each of the 5 seers: it is obtained by adding up the marginal utility of the first seer with the marginal utilities of the 2nd, 3rd, 4th and the 5th seer respectively. So it is

clear that if we know the marginal utilities of the successive units acquired of a commodity, we can find out the total utility of a given amount of it by simple addition.

In our illustration, we know the marginal utility of each successive unit up to the 4th piece only. So we can find out the total utility of one, two, three, or four pieces only, but not of five, six, or more. Why? Because we do not know the marginal utility of the 5th, 6th, or any other successive unit. But suppose, we know their marginal utilities; the total utilities of the different amounts can then be found easily as follows:—

Successive units acquired	Marginal utility of each successive unit, measured in money	Total utility in annas	The amount of commodity to which the total utility refers
1st piece	16 as.	16 as	1 unit
2nd ,,	14 ,,	16+14=30	2 units
3rd ,,	13 ,,	16+14+13=43	3 ,,
4th ,,	12 ,,	16+14+13+12=55	4 ,,
5th ,,	11 ,,	16+14+13+12+11=66	5 ,,
6th ,,	10 ,,	66+10= 76	6 ,,
7th ,,	9 ,,	76+ 9= 85	7 ,,
8th ,,	8 ,,	85+ 8= 93	8 ,,
9th ,,	7 ,,	93+ 7=100	9 ,,
10th ,,	6 ,,	100+ 6=106	10 ,,
11th ,,	4 ,,	106+ 4=110	11 ,,
12th ,,	2 ,,	110+ 2=112	12 ,,
13th ,,	0 ,,	112+ 0=112	13 ,,

The marginal utility of the 13th piece is zero to our labourer, because his desire for cloth gets satiated with 13 pieces, and he has no desire for more. And this is the position where total utility becomes maximum. That is to say, the marginal utility is zero,

when the total utility is maximum. We notice further that the marginal utility is highest, when our possession is nil, *i.e.*, when the total utility is zero.

Let us carefully study the above table, and satisfy ourselves that the total utility of a given amount is always equal to the marginal utilities of all the units included in the amount. We should never forget that the marginal utility of a given unit is the additional utility that one derives from its acquisition. The marginal utility of the 4th unit is thus the utility that its acquisition adds to the aggregate utility of the three units already acquired or consumed. But we know that total utility of 3 units *plus* the marginal utility of the 4th is equal to the total utility of 4 units. Hence it follows that the total utility of 4 units *minus* the total utility of 3 units is equal to the marginal utility of the 4th. The marginal utility of any specified unit is thus the difference between the total utility of the amount that includes the unit and that of the amount excluding it. The marginal utility of the 7th unit, say, is equal to the difference between the total utility of 7 units and that of 6: the marginal utility of the 11th unit similarly is the difference between the total utility of 11 units and that of 10.

DEMAND PRICE

Let us now understand what we mean by demand price and how it is related to the marginal utility. We have already noticed* that the marginal utility of any specified unit of the commodity is measured by the price one is willing to pay for it.

*See page 35.

The marginal utility of the unit, however, is only a different name for the intensity of desire for it. Desire, we know, is a feeling, *i.e.*, something that one feels within one's self. The intensity or eagerness of desire for an object can only be known outwardly by the amount of sacrifice that a man is willing to make for acquiring it. The price that he is willing to pay is thus the external measure of the intensity of his desire for it, *i.e.*, of its marginal utility. Now the price that one is willing to pay for a unit of the commodity rather than go without it is called its *demand price*. Demand price is thus the money measure of the marginal utility; in other words, it is the marginal utility estimated and expressed in terms of money. In our illustration, the demand price for the first unit would be 16 as., that of the second 14 as., that of the third 13 as. and so on.

Now if we remember that the demand price for a given unit is only the measure of its marginal utility in terms of money, it will be clear that as the marginal utility falls with increase in the quantity of a commodity acquired, its demand price must fall likewise. Thus we come to a simple relation between the demand price of a commodity and its amount; demand price falls continuously with the increase in the amount acquired of a commodity.

CHAPTER VI

LAW OF DEMAND

We find a similarly simple and uniform relation between the amount demanded of a commodity and its market price as there obtains between an individual's amount of demand and the demand price. The market price means the price at which a commodity is sold in the market. We should distinguish it from individual demand price, which is a customer's price for a commodity,—the price that he is willing to pay for a unit. The amount of demand is generally found to vary with the market price of commodity. It moves in a direction opposite to that in which the price moves. The amount demanded tends to expand with every fall in the price of a commodity, while it contracts continuously as the price rises. This uniform relation between the amount demanded and the market price of a commodity is called the law of demand. *The law of demand* states the manner in which the amount of demand and the market price is related. An illustration will make clear what the law of demand states. Suppose the market price of rice per maund is Rs. 5/- and the total amount that can find purchasers in the market at this price is 100 mds. Now if the price gets less, say Rs. 4/-, the amount demanded will be greater, say, 120 mds. If the price continues to fall still further, the amount demanded will be continually greater, 150 mds, say, at Rs. 3/-, 180 mds. at Rs. 2/- and so on. On the other hand, if the price rises, say, to Rs. 6/-, the demand would contract, say, to 90 mds. A continuous rise in price will contract the demand continuously: the demand

would be 80 mds. at Rs. 7/-, 70 mds. at Rs. 8/- and so on. A tabular statement is given below:—

Market price of rice per md.	Amount demanded at different price	
Rs. 8 ...	70 Mds.	Demand contracting as the price rises
,, 7 ...	80 ,,	
,, 6 ...	90 ,,	
,, 5 ...	100 ,,	
,, 4 ...	120 ,,	Demand expanding as the price falls
,, 3 ...	150 ,,	
,, 2 ...	180 ,,	

We can explain the law of demand, that is, the uniform relation between demand and price, easily as follows:—

A customer will not buy a commodity if its market price happens to be higher than his demand price. He continues to buy it only so long as his demand price does not exceed its market price. And he ceases buying as soon as the two prices become equal. For a given market price, the consumer purchases such a total amount as makes his demand price for the last unit equal to the market price. He will not buy more at this market price, for his demand price for an additional unit, being lower, is less than the market price. But if the market price falls, he can increase his purchase; for his demand price for an additional unit would no longer be less than the market price which is now lower. He will not, however, continue to buy the commodity indefinitely. He will again cease buying, as soon as his demand price for the unit added goes down and becomes equal to the new market price. Every customer,

therefore, usually buys more as the market price falls. The total amount demanded in the market consequently increases as the market price falls. The customer's inclination to increase his purchase with every fall in the market price thus explains the law of demand—the uniform tendency we observe in the market. *viz.*, that the amount demanded expands or contracts as the market price falls or rises.

This, however, is not the only reason for the amount of demand expanding and contracting with the fall and rise of price. There is a second reason too. All the purchasers of a commodity are not equally well-off. Some are poor and some rich. Oranges may be purchased in the market for the Rajas and Maharajas as well as by beggars and coolies. This is true of all the important articles of a market. So if the market price is high, people who are poor cannot buy the commodity. But as price falls, they begin to purchase and this increases the aggregate demand in the market. The unequal distribution of income in society can also, therefore, explain the law of demand.

As a matter of fact, both the causes are at the root of the tendency we call the law of demand. People already accustomed to consume a commodity increase its purchases as the price falls; and the people who cannot afford to buy at a price they regard as too high, commence purchasing as soon as the price falls sufficiently low to enable them to buy.

CONSUMER'S SURPLUS

It may be asked why the customers cease to buy when their demand price falls down and gets

equal to the market price. The reason, though simple, is important. It is the basis of our economic conduct generally. Every man seeks to secure a maximum net benefit out of his sacrifice. Every producer seeks a maximum net profit. Every consumer likewise seeks a maximum net utility or satisfaction from every article he purchases for a price. Let us now remember that the demand price of a consumer is the money measure of the marginal utility of the unit he is going to acquire; and that the market price is the actual sacrifice of utility he incurs in its purchase. So he is induced to purchase a unit only when the marginal utility derived from its acquisition is not less than the utility of the money he sacrifices in its purchase. In other words, a consumer buys a unit only when his demand price for it is not lower than its market price. Thus in our illustration,* the demand price for the first piece of cloth was 16 as., while its market price was 12 as. That is why he decided to buy the first piece. Now the excess of demand price over market price for a unit of a commodity is technically known as "Consumer's Surplus." It is so called because it measures the surplus utility or net satisfaction that a consumer obtains from its acquisition. To repeat, demand price for a unit represents the utility of its acquisition to the purchaser, while market price represents the utility he sacrifices (in acquiring it); the difference between the demand price and the market price, therefore, represents the net or surplus or excess utility obtained by its acquisition. We may say, therefore, that a customer's will moves to purchase a commodity only so long as his

*See page 34.

Consumer's Surplus or net utility from the unit acquired is not less than nothing. The labourer* of our illustration derives a Consumer's Surplus of 4 as. (16 as. *minus* 12 as.) from purchasing the first piece, 2 as. from the second, 1 anna from the third, and nothing from the fourth piece. So he stops purchasing at the fourth piece; here his Consumer's Surplus for the unit acquired is nil, the demand price and the market price being equal. But it is at this point, you will notice, that his aggregate Consumer's Surplus derived from the total amount purchased gets maximum. For the first piece gave him a Consumer's Surplus amounting to 4 as., the first two pieces together 6 as., three pieces together 7 as., and four pieces 7 as. His aggregate Consumer's Surplus thus goes on increasing till he buys his fourth piece. This will make it clear why he ceases purchasing at this point: he stops buying, because his Consumer's Surplus here is maximum. He will not buy more, for it will put him to a loss of net utility or Consumer's Surplus. Nor will he buy less, for it will lessen his gain in total utility or his aggregate Consumer's Surplus.*** Let us then remember carefully that the point when the Consumer's Surplus gets really maximum is also the point where the demand price and the market price are equal, or where the Consumer's Surplus of the unit last purchased is nil. The consideration of Consumer's

*See page 34.

*** Let us note here that though the aggregate "Consumer's Surplus" is highest, *viz.*, 7 as. both when he purchases 3 pieces or 4, still his gain in utility is really more when he buys the 4th piece, for although his net gain in surplus utility is the same, his total utility or satisfaction is greater when he consumes 4 pieces instead of 3.

Surplus and total utility thus enables us to explain clearly why a consumer buys a definite amount of a commodity at a definite market price, and why he buys different amounts at different prices. The following Table summaries the illustration given above:—

Successive units acquired.	Demand price for successive units.	Market price per unit.	C.S. of the successive units.	Aggregate C.S. for the total amount purchased.	Total Utility of the aggregate amount consumed.
1st piece.	16 as.	12 as.	4 as.	4 as.	16 as.
2nd ,,	14 ,,	12 ,,	2 ,,	4+2=6 as.	16+14=30 as.
3rd ,,	13 ,,	12 ,,	1 a.	4+2+1=7 as.	30+13=43 ,,
4th ,,	12 ,,	12 ,,	*Nil.*	4+2+1+0=7 as.	43+12=55 ,,
5th ,,	11 ,,	12 ,,	loss 1a.	7—1=6 as.	55+11=66 ,,
6th ,,	10 ,,	12 ,,	,, 2 as.	7—2=5 as.	66+10=76 ,,

The table shows that though the aggregate Consumer's Surplus is maximum, *viz.*, 7 as., both for 3 pieces and 4, still the total utility is greater for 4 pieces, *viz.*, 55 as., than it is for 3, *viz.*, 43 as. That is why our labourer closes his purchase with 4 pieces and not with 3.

Secondly, it will be seen that had the market price been 16 as., he would buy only one piece; if 14 as., only two; if 13 as., three pieces. And because the market price happened to be 12 as., he bought only 4 pieces. But if the price falls to 11 as., he would buy 5; if it falls to 10 as., he would buy 6; and so on. The total purchase is always limited to that amount, for the last unit of which the demand price of a customer becomes equal to the market price.

Chapter VII

ELASTICITY OF DEMAND

Let us re-examine a little more closely the relation between the amount demanded of a commodity and its market price, as stated by the law of demand. The law of demand states simply that the amount demanded changes in a way opposite to that in which the price changes. It notices only the contrary directions in which demand and price change. It does not seek to relate their changes of opposite kind quantitatively. It does not say, for instance, how much increase (or decrease) in the amount of demand is to take place for a given fall (or rise) in the market price. Observation shows, however, that the amount of demand sometimes changes a good deal and sometimes only slightly for a given change in price. The elasticity of demand measures the largeness of the change in the amount of demand relatively to the change in the market price. If the amount of demand due to a fall in price extends so much that the total amount spent upon the commodity by the consumers becomes greater, the demand is said to be *elastic*. On the contrary, if the extension in the amount of demand for a given fall in price is so small that it diminishes the total expenditure of the consumers upon the commodity, the demand is said to be *inelastic*. In short, when the total expenditure upon a commodity increases as the price decreases, we have *elastic demand*: when the total expenditure diminishes with the fall in price, we have *inelastic* demand. We are to remember this criterion very carefully. Suppose that the amount

demanded and the total expenditure on a commodity change with price as follows:—

	Market price per unit.	Amount of demand	Total expenditure upon the commodity Market price × amount of demand.	
Elastic demand	Rs. 10	10 units	Rs. 100	expands
	,, 9	12 ,,	,, 108	
Rigid demand	,, 8	14 ,,	,, 112	constant
	,, 7	16 ,,	,, 112	
Inelastic demand	,, 6	18 ,,	,, 108	contracts
	,, 5	21 ,,	,, 105	

Let us notice first that the amount of demand expands continuously from 10 to 21 units, as the price falls from Rs. 10 down to Rs. 5. This is only what we should expect from the law of demand.

Secondly, let us notice that the expenditure increases as the price falls from Rs. 10 to Rs. 9 per unit; and again as the price falls from Rs. 9 to Rs. 8. So the demand of the commodity is *elastic* for the range of prices between Rs. 10 and 8. The expenditure remains constant, as the price falls from Rs. 8 to Rs. 7. Here the demand is, therefore, neither elastic nor inelastic. We may say that demand for the commodity is rigid for the change in price from Rs. 8 to Rs. 7. But the total expenditure diminishes when the price falls from Rs. 7 to Rs. 6 or from Rs. 6 to Rs. 5. The demand is hence inelastic for the change in price between Rs. 7 and Rs. 5.

It may be questioned: What will be the criterion for elastic demand, when the price rises instead of falling? The criterion here is similar; but

evidently it cannot be the same, for the above criterion did not take into consideration the rise in price. In the case of rising prices, the criterion is as follows: if the total expenditure increases with the rise in price, we have inelastic demand; if the expenditure remains unchanged, we have rigid demand; and if the expenditure falls as the price rises, we have elastic demand.

The above Table will illustrate the rules equally well. Let us read the table from the bottom upwards. When the price rises from Rs. 5 to Rs. 6, or from Rs. 6 to Rs. 7 the total expenditure also rises. So here we have inelastic demand. The expenditure remains unchanged for the rise in price from Rs. 7 to Rs. 8. Here then we have rigid demand. And the expenditure falls as the price rises from Rs. 8 to Rs. 9 or from Rs. 9 to Rs. 10. So the demand is elastic for the range of price between Rs. 8 and Rs. 10.

Need we remember two kinds of tests for determining the elasticity of demand, one for a rise in prices and the other for a fall? Fortunately, that is not necessary. We can have a common test for cases covering both the rise and the fall in prices. Let us note that when the expenditure changes in the same way as the price, the demand is inelastic. We may then remember the rule for inelastic demand in this way: inelastic demand is indicated by *like* changes in the price and expenditure. Elastic demand, on the contrary, is indicated by *unlike* changes in the price and expenditure. When expenditure changes in an opposite direction to price, we have elastic demand. When an increase in price leads to a decrease in expenditure, or a decrease in price

leads to its increase, we have elastic demand. Let us remember then:

Like (similar) changes in price and expenditure indicate inelastic demand and *unlike* (dissimilar) changes in price and expenditure indicate elastic demand.

Generally the demand for necessaries and conventional necessities is inelastic, while the demand for comforts and luxuries is elastic. We should remember, however, that what classes of commodities are necessaries, comforts, or luxuries depend on the peculiarities of consumption of a people or its various classes. Boots and stockings are necessaries to European labourers; so are bread, butter, meat and tea. But they are luxuries to Indian labourers. Shirts and shoes are necessaries (conventional necessities) for middle-class people of India, while they are luxuries to our peasants and workmen. What a class of consumers cannot do without must be regarded as a necessity; other goods are comforts or luxuries according as their use is less or more superfluous for health, strength and efficiency in work.

Chapter VIII

PROBLEMS OF CONSUMPTION

What we have already noted and considered with regard to the satisfaction of wants or consumption may lead to further reflection. The wants of man, when he was a hunting savage, comprised only his present needs. He could not think for the morrow, far from providing for it, as his needs for the day absorbed all his energy. With the rearing of animals and the cultivation of wheat and other plants, he solved the difficulty of living in a rainy day or a spell of accident or disease. But that did not meet the difficulties that an individual had to face for livelihood in his old age, when he was too weak for work. The primitive solution of these difficulties was moral, and not economic. It lay in society's enjoining on a son the duty of maintaining his aged parents. With the growth of the political organisation on the one hand and of agriculture and commerce on the other, an economic solution was found in the recognition of property in lands and precious metals. An owner of lands or precious metals could secure his living without personal toil. The opportunity of owning lands, however, was only limited to the rich and the powerful. It was not open to the ordinary people. But the advent of machines and its dominance over modern production has resulted in a newer form of property in machines. People now can earn an income like the owners of lands from the owning of machines. The community has now a greater scope of earning an income through property than formerly.

It is also important to remember one or two points regarding consumption in general. Let us remember that a consumer's power for consumption or his capacity for demanding economic goods in the present society is limited by his money income. The total amount of the different goods he can consume depends upon his income. No man can earn an income unless he produces some goods, or renders some service for which there is a demand. A man's income depends upon his importance as a producer as well as upon his efficiency. The higher his income, the greater is the variety and the amount of the goods he can consume. A poor man with a low income can hardly meet his wants. He has to spend his all to meet his present needs and he is often in debt. He has nothing left to meet his future needs and contingencies such as sickness, accident or unemployment. A rich man with a large income can easily satisfy all his present requirements, and a part of his income remains unspent. The unspent income is what we call saving. The people in a community both spend and save. Spending enables them to meet their present needs and saving is necessary for meeting their future requirements. So we see that the whole of the income of the community is not spent in buying the goods and services that the people need to satisfy their present wants. A part of the income of the community is saved. What is done with the saving and how useful it is to society, we shall study in a separate chapter. For the present let us note that spending means buying up goods for current needs, *i.e.*, goods and services that satisfy the present needs of the consumers; saving is made to meet future requirements.

Let us remember that the income is always distributed by consumers between the present and future wants. People compare the urgency of their present wants with that of the future. And they distribute their income to meet them all in such a way that it gives them the maximum satisfaction of wants, present as well as future.

But the income spent to meet our present wants or to purchase our present goods has to be distributed similarly between the commodities acquired. How much of each of the different goods required, are we to buy with the limited amount we have for spending? Here, as elsewhere, we follow the same rule which guides our economic conduct generally. We spend our limited resource in such a way that it gives us the greatest possible satisfaction of our divergent wants. This means that every rupee that is finally spent to finish each and every kind of purchases must bring the same amount of satisfaction. In other words, the different commodities have to be purchased in such amounts as make their marginal utilities equal to each other. In practice, we always try to make our purchases accordingly. Before we decide to purchase an additional amount of a commodity, we consider and compare the additional utilities and satisfaction that an additional purchase of other commodities we need will possibly bring for a unit of money; we choose the one which would give us the greatest benefit or satisfaction—the one of which the marginal utility is the highest. Whenever we find that we have bought too much of one thing and too little of another, this means that their marginal utilities have not been equal and consequently our total satisfaction from the money spent has been somewhat

less than it might have been. It will be good to remember generally that maximum satisfaction is obtained from the expenditure of any kind of resource, be it money or time or anything else, when it is distributed between the different objects or uses in such a way that it brings an equal marginal utility or satisfaction from each and all. This principle of maximum satisfaction guides the economic conduct of men everywhere: the maximum benefit from a given amount of sacrifice, or what comes to the same thing, a minimum sacrifice to attain a given end or benefit. The problem of consumption is thus a problem of distributing our limited income between the different objects of our acquisition; the income spent should bring us the highest possible satisfaction from the commodities acquired and their amounts purchased.

Chapter IX

THE REQUISITES OF PRODUCTION

We have already indicated in Chapter IV the meaning and nature of production. Production of wealth does not mean creation of matter; it means only creation of additional utility for consumers. Matter of the material goods is obtained from nature. A cultivator grows paddy or wheat from seeds: his production of wealth consists in the increased utility of corn over that of seeds. A carpenter turns a log of wood into a table or chair; his production of wealth consists in the additional utility we enjoy from the furniture over and above what we have in the log of wood. A weaver weaves cloth out of cotton; his production of wealth consists in the added utility we have in a piece of cloth to what we have in cotton. Man cannot create anything new. Goods he requires are all ultimately made out of the gifts of Nature.

Nature's gifts include all we have in our physical environment: matter and energy; land and water; minerals and forest produce on land; vegetables, birds, fishes, and other animals and products we have on land and in water; sunshine and heat; air and light; soil and space; rain and moisture; winds and tides; rivers and currents; physical and chemical properties of matter and all forces of Nature.

Man's labour transforms the materials of Nature into the goods that satisfy his desires. So the primitive and original requirements of production must have been two: natural gifts, shortly called "land", and human labour, both manual and

mental. But even in the primitive stage man soon learned to lessen his toil with tools and implements for producing his material goods. He hunted his games with weapons, caught fishes with nets and hooks, cultivated fields with ploughs, climbed trees with ropes or ladders: and so on. In modern production we find the use of tools and machines to such a huge and enormous extent that we wonder how primitive men could manage to do with so few and so crude kinds of them.

Let us also remember that all kinds of agricultural produce take a long time to grow and ripen. And all raw materials, such as wheat, hides, wool, silk, cotton and iron, require a long preparation before they are fit for satisfying our wants. It is, therefore, clear that not only tools but also raw materials and means of subsistence must be supplied to the labourers continuously during this long period to enable them to grow, produce or manufacture.

So we see that the requisites of production are practically three: (1) gifts of nature, (2) labour of man, and (3) things like tools, machines, raw materials and means of subsistence already produced by labour out of "land," shortly called capital. The German definition of Capital is very good indeed from this point of view; they call it "produced means of production".

Let us note what are the things that the economists include under the term "capital". It includes buildings and factories where work or business is carried on; tools, implements, machines and plants; live-stock, that is to say, animals the services of which are utilised in production; the raw materials like

wheat, cotton, wool, hide or metals that are worked up into articles of food, dress, or shelter or other useful things; and lastly the provisions and other goods that society must keep ready to support labour during the period of production.

" Land," labour and capital, the three requisites of production, are also called *agents of production* or *factors of production*. Of these three, " land " and labour are absolutely essential for the production of material wealth. Production of material goods is inconceivable without them. Although capital does not make the production of wealth absolutely impossible, still its absence would reduce its amount considerably.

Wealth, however, is of two kinds: material goods and personal services. The three requisites of production are all necessary for material goods, but not for services. Services of a cook, a domestic and a messenger; or of a doctor, teacher, priest or singer, mostly depend on personal training or natural talents of individuals; they do not require " land " or nature's gifts, nor always capital for their performance.

The term " Labour " as a requisite of production covers all kinds of economic activities of man, all efforts *i.e.*, all uses of the powers of mind and body that are made for the acquisition of wealth. It includes the organising talents of the business man, his abilities as a producer, the kind of directive labour that brings together men, machines and materials, and set them to production. It includes, in other words, the activities of the men we called entrepreneurs. (See p. 27, Chap. IV). It also includes all kinds

of directed labour, all sorts of activities that are undertaken at the direction and guidance of entrepreneurs. But it is often necessary to distinguish the directive and organising labour of the employers from the directed labour of their employees. The term "labourer" or "workman" will be used in this book to designate the employees who work under the direction of the entrepreneur. The directed labour thus includes the ordinary labour of workman, the skilled efforts of experts like engineers, doctors, lawyers and accountants and the unskilled physical strength of every man. As a passive factor of production, let us remember then, labour often means only the labour of the people whose work is directed, but not the labour of men who direct them and organise production.

Now to produce any commodity, it is of course necessary that some one should bring together and organise the different requisites of production, "land", labour and capital. That man may be a landlord, a labourer or a capitalist. But whoever he might be, as soon as he undertakes to produce a commodity with a view to provide for the satisfaction of a social need, we call him an entrepreneur, an enterpriser or a businessman. It is the entrepreneur who takes the initiative and actually provides for society the goods and services it needs. His service is called *enterprise*. And it is sometimes regarded as a distinct factor of production: this, however, appears to be illogical, for labour includes the services of the entrepreneur.

Earlier economists made a distinction between productive and unproductive labour. Productive

labour, they said, results in wealth, but unproductive labour does not. But wealth in their definition consisted only of material goods, and not of services such as those of cooks, maids, doctors, priests or soldiers. According to the modern definition, however, wealth covers the products of all forms of effort, that help to satisfy wants. So we need not now make any distinction between productive and unproductive labour. All labour is productive in its nature as it aims at the satisfaction of wants. Labour is unproductive in its results only when it fails to produce any amount of wealth. The important point with regard to labour is whether it is more or less productive in an occupation or place, whether it produces more wealth or less.

Chapter X

LAND: INFLUENCES THAT AFFECT ITS PRODUCTIVITY

All kinds of production depend on the resources of nature we shortly call " land ". Not only agriculture, mining, fishery and forestry must have " land " for the purpose of production, but even transportation, manufacture and commerce must have space, air, light, a suitable climate and other gifts and powers of nature to carry on. In India on more than $\frac{1}{3}$ of the total area we grow crops and more than $\frac{1}{8}$ of the area is under forest. Of the total area sown, food crops occupy about $\frac{3}{4}$ths and non-food crops about $\frac{1}{4}$th. The chief crops grown on our soil are rice, wheat, barley, oats, maize, millets, buckwheat, pulses of various kinds, oil-seeds, cocoanut, and ground-nut; sugar, coffee and tea; jute, cotton, opium, indigo, tobacco and fodder crops. Forests give us timber, lac, tanning materials, and many kinds of oils, turpentine, rubber and resin. Rivers and seas provide waterways for commerce and communications, and, together with tanks, offer plenty of fish. Mines supply us with considerable quantities of coal, petroleum, manganese, gold, mica, iron, rocksalt, and also in smaller quantities other minerals such as copper, lead, tin, tungsten, nickel, rubies, sapphires, magnesite and zinc. This will give us an idea of the importance of " land " as a factor of production and of the extent of human activities dependent upon it.

It will readily occur to you that a desert would not give us so many products nor so easily as the land of India does. That is because no life, vegetable or

animal, is possible in desert areas. We are very fortunate that God has given us in India land that is called *productive*. Let us note the word *productive*. It means in Economics not only that some products are possible to be grown from land with the aid of the other two requisites of production, but also implies that these products can be obtained with comparatively less sacrifice of cost or effort. The latter implication of the word productive is really significant in economic literature. For it is possible to grow oranges and bananas which are tropical fruits even in the cold climate of the British Isles, but the cost would be prohibitive. Similarly we can grow grapes in the parks of Calcutta as some Mogul Emperors did in their palace gardens at Delhi and Agra, provided we are prepared to spend as much. Productivity in Economics should be distinguished from the mere producibility of a commodity. Productivity refers to the amount of physical returns we obtain of a commodity in return for a quantity of land, labour and capital devoted to its production—that is to say, the amount of physical produce obtained per unit of our sacrifice in productive requisites, viz: land, labour and capital. Productivity, in other words, refers to the results of our application of the different requisites to production. It is a quantitative measure rather than a mere qualitative attribute. Productivity of land thus means the amount of produce we can obtain from a given area with a given expenditure of labour and capital.

The productivity of land varies with locality. Some soil is more fertile than others. Productivity of the same land does also vary with the different kinds of produce raised from it. Bengal plains are more

fertile for jute and rice than barley or wheat. Germany is more fertile for rye than wheat. Western Europe cannot grow tea and coffee which its people drink so plentifully. The reason is that the physical features and the climate of a place control its *vegetation*. No vegetation can flourish in deserts or on rocks. We cannot have a forest where there is no rainfall. We cannot grow cotton on soils which are suitable for rice. Each type of soil has its own favourite crop. Rice grows best on flat alluvial land where the climate is hot and the rainfall is above 40 inches. Wheat requires a drier and colder climate and the rainfall must be less than 40 inches. That is why we grow wheat in India as a winter crop. Cotton is a dry-region crop and is cultivated best in India on the sticky black cotton soil of the Deccan with a rainfall of less than 40 inches.

Different kinds of vegetable life require different amounts of heat and moisture and also different types of soil for their growth and development. Porous or sandy soil is good for some crops and sticky or clayey soil for others. Some crops flourish best in a hot and moist climate, some in cold and dry; still others in cold and moist or in hot and dry. Soil contains several chemical substances which serve as the food of the vegetation that grows upon it. Soils differ as their chemical composition (*i.e.*, the contents of those chemicals) differs; or their mechanical character (*e.g.*, its sandiness or stickness) differs. Different types of plants require different kinds of chemical food and different mechanical conditions of soil for their existence, protection (against wind or frost), growth and development. That is why the productivity of land differs not only with climate and soil but also with the

different kinds of crops grown upon it. The natural productivity of a piece of land which is due to the chemical and mechanical character of its soil and to the climate of the locality is commonly called *fertility*.

The productivity of land, let us remark, is then a relative conception, relative to the product for which it is utilised and to the physical features and climate of the locality. The productivity of the same piece of land again often varies as we grow continually the same kind of crops from it. This is due to the fact that chemicals are taken away from the soil by the plants that grow upon it as their food and nourishment. So the continuous growth of the same kind of plants makes the soil deficient in these chemicals and the deficient soil is unable to feed the later crops sufficiently well. The soil thus grows less fertile for the crop. But the deficiency can be corrected by selecting some such crop as its successor that requires different chemical substances as their food and leaves in its leavings the chemicals in which the soil has grown deficient. This restores the soil to its former fertility. The rotation of crops practised by our cultivators is really a device for maintaining the original fertility of a soil intact in its chemical contents. This deficiency can also be made up by the direct application of the chemicals (in the form of manures) in which the soil is found to be deficient from chemical analysis. This will show that the fertility of land is alterable and it is possible to modify the natural productivity of land by labour and capital.

Whatever might be the original fertility of a soil, it is usually found that the return per unit of expenditure (in terms of labour and capital) gets less and

less, the more and more produce we try to obtain from a particular piece of land. This tendency of the returns to become less and less as production increases, is known as the *law of diminishing returns*. This law states the relation we observe between the return per unit of expenditure and the total returns of a commodity. It is evident that if the return per unit of money expenditure is less, the money cost per unit of produce must necessarily be greater. So we can state the law of diminishing returns in another form: *viz.*, the cost per unit of a commodity tends to increase as the total amount produced increases. This, however, states a relation between the cost per unit of a commodity and its total amount; and the relation is uniform. It is, in other words, the statement of a uniform relation: so it is a law. As it states a relation between cost per unit and total amount, it is properly a law of cost (not a law of return). And as the cost per unit increases with the total amount raised, it is called the law of increasing cost. So we see that the law of diminishing returns and the law of increasing cost refer to the same facts and mean the same.

The law of diminishing returns or increasing cost is found to operate not only in agriculture, but also in mining and fisheries. That is to say, the cost of production per unit is generally found to increase not only when we try to increase the production of any kind of agricultural produce, but also when we attempt to extract a greater quantity of a mineral from a mine or to net a greater catch of fish from the seas, rivers or ponds.

The question arises, why should we work up our soil, mines and waters to such an extent that a dimi-

nishing return results? Certainly no people would do it willingly. But if population increases in a country and its food and raw materials for manufacture have all to be obtained from its own lands, there is no option but to cultivate them with more labour or with more capital—that is to say, more intensively: for "land" is limited by nature and people cannot have recourse to new or additional lands, when all their lands are already cultivated. We should remember that the supply of land is limited by nature. For a given method of cultivation the increasing population ultimately brings us to a stage where we cannot but cultivate our lands so intensively that a diminishing return results from cultivation.

Besides this there is another reason. All lands are not equally fertile. Some lands have more natural fertility than others. As soon as all the best land of a country is exhausted, its people have to bring the inferior lands under cultivation. This process is technically known as *extensive* cultivation: it means lessening returns or increasing costs. So we see that not only the absolute fixity of lands in general but the relative scarcity of good lands is also a cause of the diminishing returns to agriculture, mining and fishing. As a matter of fact, the need for increasing the produce forces people to take to both *intensive* and *extensive* methods of production and hence to diminishing returns.

Is there no way of escape from this waste of labour and capital and the consequent misery that is involved in a diminishing return? Certainly there is one: it lies in the discovery of new ways of cultivation or in the invention of new methods of production,

that would require comparatively less of the natural resources and more labour and capital for the most efficient return in production. This we shortly call *improvements*. It is then improvements in the methods of production that enable us to evade the evil of diminishing returns.

It will be clear from the above that the diminishing returns of " land " is really due to its relative scarcity in space or natural bounty. An improved method is so regarded, because it removes the relative scarcity of land by lessening its demand; because it thus prevents the diminishing return from coming into operation and hence improves the situation for our productive efforts.

Let us understand it clearly that the diminishing return is really the outcome of the relative insufficiency of a particular factor of production. So the law of diminishing return need not be regarded as peculiar only to extractive industries, *viz.*, agriculture, mining and fishery. Diminishing returns may attend constructive industries like manufacture or transport, whenever the supply of their plants fails to respond to their demand. But, in practice, this is rare; for labour and capital, unlike " land," can be increased with time and may thus increase the supply of necessary plants. But for short periods, when time is not long enough to increase their supply, the diminishing return will affect these industries. Thus diminishing return is often experienced in factories, when their products require to be increased suddenly and there is no time to set up new plants for them. But diminishing return, let us note, can operate in industries only temporarily, only for the short period when the

supply of the productive plants and necessary factors is unable to expand with demand. The case is different with agriculture and mining. Land space and land gifts are limited by nature and so its scarcity cannot be removed except by lessening the demand for it. It is sometimes possible to do it by a change in the technical methods of production which we have already considered and called *improvements*.

Chapter XI

THE SUPPLY OF LABOUR

The supply of labour never corresponds with the size of the population. Children, old men, the sick and the infirm cannot work. Men with property income would not usually work. Women of the well-to-do classes prefer to live a life that is more ornamental than useful.

Children under fifteen years of age form approximately 40 per cent. of our population in India. Their business is to consume and not to produce: to develop into future producers and not immediately to support the community's life and living. For the time being they have to be brought up and trained by the workers of the family and the school. Boys and girls between fifteen and nineteen years of age constitute 9 per cent. of our population. Many of them are to be regarded as learners under training rather than workers. The working population really consists of men and women between 20 and 59 years of age. They form nearly 47 per cent. of the total population in India, the males consisting of about 24 per cent. and females about 23 per cent. Women again mostly work for keeping house and rearing children: none but the poorest of them work in our country for money-making directly at the farms or at the factories. People over 59 years of age comprise 4 per cent. of the total population.

The supply of labour does not then cover the entire population of a country: nor can it comprise the whole year of its working people. For the labourers do not all work every day in the year; they take holidays, fall sick or remain unemployed. Again, they

cannot work all the twenty-four hours of the day: how many hours they *can* labour or they *will* labour depends upon the climate, their physical health and mental vigour as well as upon their willingness to work. Sometimes legislation determines the hours of work for ordinary factory labourers. We have to consider besides that the working capacity is not the same for all: the effort of some is greater than that of others. Nor can a man work with an equal intensity during all his working hours.

So we see that the supply of labour of a community depends upon many factors: on the total number of population, proportion of the working population to the total, the hours of work, and the intensity of effort.

The position of the labour supply in our country appears to be rather unfortunate. First, the age constitution of our population is comparatively disadvantageous. 47 per cent. of our people have to support the entire community: the corresponding percentage in England and in the United States being 51 and 53 respectively. The proportion of the working population to the total is less in our country than in Europe and America. Secondly, the physical health and strength of our workmen are decidedly inferior. Our labourers have neither knowledge nor arrangements of sanitation. Preventible diseases are widespread and common. The seasonal cycles of cholera and malaria that characterise our rural and urban life are inconceivable in any civilised community. Bad sanitation, ignorance and malnutrition have made us easy victims to diseases. So our labourers are prevented from working on many days in the year.

Thirdly, frequent illness saps their strength and vitality; our hot and moist climate tires them sooner than a cold climate. So they cannot work efficiently as many hours as the people of the West. It will now be clear that our supply of labour is actually much less than what one would expect or imagine from the total number of our people.

The effective labour supply of a nation, therefore, depends not so much upon the total number of its population, as upon the number of men who actually work, upon the number of days they work in a year, upon the number of hours they work each day and, what is most important, upon the skill and energy they put into each hour of their work, upon what economists call efficiency.

Let us now consider separately each of the factors that affect the supply of labour in a nation *viz.*, (*a*) the total population, (*b*) the percentage of working population, (*c*) the total working hours of a labourer, and (*d*) the efficiency of his labour.

1. THE NUMBER OF PEOPLE

The total number of men in a nation can never exceed its capacity of food supply, the supply that it can produce from its own lands or that it can procure from other lands. The total number of people of course never remains the same: it has a tendency to increase continuously. And this natural tendency in a population to increase is much faster than its capacity to increase its food-supply. Its number, therefore, presses steadily upon the means of its subsistence. The consequence is poverty and misery; and the

ultimate decimation of the excess population by starvation, famine, disease and death. This was the observation and teaching of the English economist Malthus (1766-1834). He wrote: " By nature, human food increases in a slow arithmetical ratio; man himself increases in a quick geometrical ratio, unless want and vice stop him."

Modern investigation shows that Malthus' law of population growth, *viz.*, that man increases at an ever increasing rate, is wrong. It is now believed that population of men (and any kind of living being) grows only for a time at an increasing rate, till the rate of growth reaches its maximum; the rate thereafter declines continuously till the population ceases to grow at all and the total number keeps constant. A name has been given to this law of the (biological) increase of population: it is called " *logistic* " *growth*.

It has also been found that Malthus' theory as to the tendency of human population to grow to the possible limit of its food-supply is not true of all nations or of all classes in a nation. Every civilised country or class, which has the necessary knowledge and foresight, is found to be disinclined to invite babies into this world at a disadvantage and to lower its standard of living thereby. In many European countries the rising standards of life have actually checked the increase of population and even effected a decrease in some cases.

But the standard of life has had no effect on population in our country or in China. That is because the peasants of India or China have no standard of life: they maintain their animal existence, just as beasts do, at the level of bare subsistence.

Malthus' theory of the population pressing upon the means of subsistence is thus true in these countries. Bengal, for instance, is so over-populated that the peasants have neither food nor clothes nor houses that can protect them even from leopards and tigers. This is true of almost all other provinces of India. Many peasants cannot have two meals a day; they cannot give nourishment for mothers or milk for their babies. More babies are born in their homes than they can properly feed and clothe and so these die soon after. The tears and sighs of mothers are not, of course, reflected in the incredibly high infant mortality as shown in the official statistics; but their broken hearts and sinking health find an indirect record in the high mortality amongst them. You see our peasants and workers in their loin-cloths. But you do not probably know nor pause to think and realise that this is due to their poverty. Nor do you probably know with what difficulty they find *sarees* for their women-folk, and how old and worn out these *sarees* are which cover their persons. Do you notice that children are allowed to run about naked till they are seven or eight years of age? Every year hundreds of men are carried off by tigers from their own houses, bitten by snakes or eaten by crocodiles, because they are too poor to make their homes, tanks or rivers safe against their invasion. The above account will show that our country is over-populated; and over-population is an evil, for it brings with it poverty and misery, disease and ill-health, and hence inefficiency. So we must combat this over-population in our country by the spread of education and knowledge, by the acquisition of foresight, and by the creation of a taste for a higher life and living.

OPTIMUM POPULATION

Some economists prescribe a number for the population which they consider as most desirable for the most efficient productivity of a nation. The material resources, they argue, must be fully utilised to the best advantage of the nation. This requires a number of men, more or less than what will be found unsuitable for the most profitable way of exploiting these resources. This they call the " optimum " or the most desirable size of population. This optimum size may, of course, differ from age to age or from country to country. How many men are required for the task obviously depends upon our knowledge of the properties of matter and our control over the forces of nature, our technical competence and our power of organisation. This we shall see more clearly a little later in the course of our economic study. But for a given nation at a particular point of time its knowledge, technical capacity and organising ability may be regarded as constant; and hence the number of people who can best develop its resources at that stage of knowledge and competence is also constant. It is this number of population which is regarded as the " optimum."

But this view of deciding the *optimum* seems to regard production as the end of man's life or as the aim of his activities. This is obviously wrong. We produce to consume. Our productive efforts are called forth according to an ideal that we set up for ourselves. The proper criterion of deciding the *optimum* should be rather the standard of sufficiency and leisure that people should enjoy and not the standard of highest possible wealth they should

produce at the sacrifice of health, intellect or culture. Militarist governments of former days encouraged a teeming population, howsoever unnecessary for productive purposes, to provide them with fighting men. Such is also the aim of Fascist Italy or Nazi Germany of today. For the economic welfare of mankind the optimum or the desirable size of population is that size which would bring to a nation a life of qualities and virtues, and not a fighting force to satisfy its military aims nor maximum material goods at the expense of men's body, mind and soul.

2. THE PERCENTAGE OF WORKING POPULATION

Let us now consider the second factor that affects the supply of labour, *viz.*, the percentage of working population. How many men and women will actually work in a nation depends, as we have already noted, on the age composition of the total population and the kind of life the women of the upper classes choose to live. Besides these, the existence of religious orders like the Hindu Sanyasins, Mahomedan Faqirs, Buddhist Sramans, Vaishnava mendicants or Christian Friars living solely on alms and charity deprives society of a part of its existing labour force. Hundreds of thousands of men known as " Pandas " make their living in India out of the charity of the pilgrims at different religious centres, though they do not specifically belong to any religious order that prohibits them from earning a livelihood by economic service.

3. THE TOTAL WORKING HOURS OF LABOUR

The third factor that affects the supply of labour is the total working hours of labour in a year. This

depends on the workmen's capacity as well as their willingness to work. Capacity to work depends, we have already seen, on the climate on the one hand and health, strength and the days of rest and recreation of the worker on the other. Willingness to work depends partly on habit, but mostly on the income one earns and on the ambition one has, on the nature of the work and on the surroundings and associations in which a man has to work. Miners' work is generally so severe that a man will not usually work for more than four days a week. A gloomy atmosphere and cruel treatment tend to keep men away, while pleasant associates and kind masters often attract them to work.

4. EFFICIENCY OF WORKMEN

The fourth factor that affects the supply of labour is the efficiency of workmen, individual as well as collective. This we propose to examine in the next chapter.

Chapter XII

EFFICIENCY OF WORKMEN

Efficiency refers to the quality of workmen as their number refers to quantity. The efficiency of a workman means the amount of skill and energy that he devotes to work. It is measured in practice by the excellence and amount of wealth he actually turns out, by the quality and quantity of goods he produces or of services he renders in a unit of time. The unit of time may be an hour or a day, week, month or year according to the nature of work or of occupation.

A labourer, let us remember, does not work today independently or by himself. He works subordinately, as his employer directs. He works in association and co-operation with other men. He works with the aid of tools and machines. The employer plans the whole work and allots different tasks to different men. Each workman has to carry out his work as best as he can. How much a labourer can do depends in these circumstances not so much upon himself and his individual ability, as upon his employer's skill of organisation and upon the quality of the tools and machines he is supplied to work with. If the employer is incompetent and the tools are bad or primitive, workmen, however good, will not be able to turn out much. Just compare how much sewing a seamstress can do in a day with thread and a needle, with how much another can do with a Singer's machine. Compare similarly how many papers a newsboy can distribute in the morning if he walks on foot with what he can when he rides on a cycle; or just think of

two farmers, one of whom grows rice with good seed and the other with bad. Fields of the both are cultivated equally well otherwise with the help of equally good men. The harvest will be fuller in the one case than in the other. Here the lower return, and hence efficiency, of the workmen who cultivated with bad seeds are really due to their employers, and not to themselves. We find again that when the various kinds of work in an occupation or job are divided amongst several hands and each devotes himself exclusively to only one kind of task, the return is much greater per head of the labourers than when all kinds of work are done by the same man. Experience handed down from age to age and from generation to generation has shown, and it shows still every day and in every occupation, that a division of work in a number of separate tasks to be performed specifically by one man improves the skill of the specialised worker and results in an increased output on the whole. A cigar-maker (or a biri-maker) in a town and a potter in a village sub-divides his work among more men on the same principle to obtain an increased output. This division of tasks, *this division of labour*, as the economist calls it technically, thus increases the productivity of labour. The efficiency of workers as a group—the collective efficiency of workmen—thus depends (*a*) on the business ability of the employer, and (*b*) on the extent of the division of labour that prevails in the industry or the firm. The efficiency of every workman directly depends on the quality of tools and machines and materials with which he is made to work.

This must not suggest to you, however, that workmen's efficiency does not depend in any way

upon themselves. Men working with the same machines and under the same employer often differ in the output of work they turn out. Workmen are not equally efficient or equally willing to work. Some men are stronger, more skilful, more intelligent, more reliable, more painstaking or more resourceful than others. Some men are lazy; but some are more industrious either by habit, or from a sense of duty or pride in their work, or from ambition to make money or a name. Their efficiency differs, as they possess these qualities or put them to work to an unequal extent. The personal efficiency of a worker thus depends partly on his inborn qualities and partly on the training and education he receives at home and at school in the use of his limbs and his mind.

You will probably realise from the above that the productivity of a worker today is largely determined by his social environment. Of the personal factors that affect his efficiency, his health, intellect and character are the most important. But his health is partly the product of heredity and largely the outcome of the kind of food and clothing and shelter his parents could provide for him, as well as of the sanitary conditions of the surroundings and the place in which he lives and works. His intellect again he owes partly to heredity and partly to the technical training and general education his parents could afford to give him. His character is formed in the kind of life he lives at home and in his school and society. Thus we see that even the personal efficiency of a worker is largely predetermined for him by the family in which he is born, and by the community in which he grows and gets his education and training. A workman,

of course, can improve his health and intellect, if his earning is sufficient for feeding, clothing and lodging himself well, and if he has leisure enough after working hours to take a training in the evening schools or night classes. There are many opportunities for evening training in western cities, but they hardly exist in our country.

The collective efficiency of workmen in a nation, we have already noticed, exclusively depends upon the efficiency of the entrepreneur, and upon the extension of the division of labour within a firm or industry. Large scale production, we will see shortly, offers a greater scope for the division of labour in a factory. Concentration of workshops in a locality is similarly helpful for a greater division of labour between the different firms within an industry. This shows that the efficiency of labour, both personal and collective, is largely determined today by various social conditions over which the individual workmen have very little control. Let us never forget that the efficiency of labour today depends only partly on their personal qualities, but largely upon the efficiency of tools and machines and upon the efficiency with which the entrepreneur organises production within his firm or factory. But this is not all. The efficiency of labour depends still more largely upon the division of labour that prevails in general within the community, that is to say, upon the general organisation of production in society. The advantages (and the disadvantages) that division of labour has brought to society as a whole and to workers in particular we propose to study later in the chapter on Organisation.

We often read and hear that Indian labour is inefficient. Naturally it disheartens us and leads us

to fancy that there is something radically wrong in the physique and character of our race which makes us inefficient and further that there is no way out of this evil. If we remember what we have learnt above, *viz.*, that efficiency depends only partly on a man's strength, intelligence and character, but mostly upon the machines, the entrepreneur and the division of labour prevailing within the community, we have certainly no reason for despair. We are, no doubt, less strong physically. It is also true that our climate does not allow us to work as long as in the colder countries. But we are not less intelligent than other peoples of the world. Nor need our character continue to be less noble or strong. Deficiency in strength and shortage of working hours can be easily made up by intelligence and resourcefulness. Man is not stronger than elephant, nor is he busier than the bee: still he dominates all the living beings on earth. This is because of his intelligence, because of his capacity to adapt himself actively to his environment. There are two ways in which an animal adapts itself to its environment. One is passive and the other is active. By his capacity of active adaptation, man has ousted other animals, stronger and hardier than himself, from dominating the world. To preserve their existence in a cold climate, animals developed fur like the sheep or blubber like the whale and the seal, but man clothed himself with the skins of animals and invented fire. To fight their enemies, animals developed claws like the lion's, fangs like the snake's, horns like the buffalo's or hoofs like the horse's; or they learnt how to run like the deer or leap like the fish or frog or hide themselves away from the eyes of their foes; but man invented bows and

arrows, guns and gun-powder. The active adaptation of man means his capacity to alter the environment continually in his favour. We should adapt ourselves more actively to our environment. Health and strength we can improve by a more scientific diet, exercise and sanitary arrangements. We must change our method of production in such a way that 'eight hours' adult work a day should suffice to make our nation the richest and the mightiest in the world. There is no reason why we should allow ourselves indefinitely to be the passive victims of cholera or malarial germs? What is wanted is determination, the grim determination to play the active role of man. Never allow your minds to be obsessed with the false notion that you belong to an inferior race, inferior climate, inferior culture and civilisation, and that consequently you must continue to remain economically inferior to other nations for all time. Civilisation spread to other lands from our country in ancient times. Our social organisation was once the best ever devised by man. But our environment has changed in the course of centuries; so we must change our habits, methods and organisation of production accordingly. Our climate is hot but cheering. Our mineral resources are enormous, forest produce vast and various, and our soil uncommonly fertile. If we cannot utilise these natural advantages, the fault lies in our passivity and lack of self-confidence. If the young India of today becomes self-confident and proceeds to adapt itself actively to the changing economic environment, our country will not long be lacking in wealth, health and efficiency.

Chapter XIII

CAPITAL

We have noticed before that raw materials together with tools, machines and other goods (already produced) that occupy, assist and support labour in production are called capital. Social resources consist of land in the sense of natural resources, labour in the sense of human beings, and all other things (including useful animals, tools, machines and raw materials) known as wealth. Do capital and wealth then mean the same? Not exactly. Wealth is used in two ways. When wealth is used directly to satisfy our present needs, it is a mere means of satisfaction or consumption; so it is wealth properly so called. When wealth is used deferredly to satisfy our future wants and to produce goods for the future, it is a means of production and it is then called capital. So capital may be broadly defined as all kinds of produced goods or wealth that are used as means of production. Thus the same thing may be wealth or capital according to its use. Wheat or paddy, when it is used as food, is wealth; but when it is used as seed for growing corn, it is capital. Coal, when it is used for cooking food, is wealth; but when it is used for an engine, it is capital.

This is how economists conceive of capital; it is a produced means of production. But business men and accountants and people who lend money have a different conception of capital. Any material source of income is capital, according to them. This latter idea is wide-spread as well as deep-rooted. Capital in this popular sense implies both an investment fund and the stock of physical goods that yields an income.

The two concepts of capital, the economic and and the popular, are at bottom really similar. Wealth that is annually produced and enjoyed constitutes the income of society in the eyes of the economist. The material source of this income should, therefore, be called capital, according to business or popular concept. Now the source of social income which consists of the annual output of enjoyable wealth comprises, of course, the entire resources of society: *land*, labour of man, and all material goods devoted to production. Of these, *land*, being the gift of nature, may be regarded as natural capital; labour as human capital; and all other material means of production as the material capital of society. In the classification of the requirements of production, the man-made material source of social income alone, *viz.*, all the produced means of production, is called capital. It may be objected that land should also be included under capital, for land too is a material source of income. Indeed some of the American economists headed by J. B. Clark include land under the category of capital and recognise only two requirements of production, *viz.*, capital and labour. This view has great scientific value. But most economists prefer to regard land as a separate class: it conforms to tradition and it is also convenient for some purposes. Hence the meaning of material capital should here be restricted only to the man-made means of production and exclude the natural means, *viz.*, land.

The two concepts of capital, the economist's and the business man's, represent two different view-points. The economist looks upon capital from society's point of view. The business man looks upon it from an

individual's point of view. The income of the enjoyable wealth for society as a whole can be obtained only by production, by producing goods and services that it needs. So the social and the economist's viewpoint is productive. An individual or a business man can earn his income, however, not only by the production, but also by the sale, transportation and storage of goods, and not only through the stock of physical goods but also through the loan of money or the investment of funds. So the individual viewpoint is acquisitive, acquisitive of money income and not productive of physical goods. The volume and variety of social income largely depends to-day, when production takes time and relies much on machinery, upon the productive equipment, raw materials as well as provisions for the support of labour. That is why the economist looks upon the entire material stock of produced goods that are devoted to production as the capital of society. Every individual who has savings or the business man finds today that his income is derived directly from the funds he invests; so he identifies capital with his investment fund or the money-value of the physical goods and services he has put into his business.

A practice has thus developed and a habit of thought thus obtains among business men as well as individual savers and investors to look upon money, in terms of which their investments are now valued and in the form of which their savings are now made, as capital. But obviously money is not capital; it is only an expression of the value of what economists call capital. The capital of a business is always expressed in terms of money. But we must not suppose that capital consists of money. The capital

of a factory, for instance, may be said to be one lac of rupees. But you will find on examination that this capital really consists of buildings, plant, machinery, stores of raw materials, unfinished goods in the process of manufacture, a stock of finished goods awaiting sale, and also a certain amount of ready money. This ready money again really stands for goods or for services or labour which the factory-owner does not require immediately, but will need for production soon after. The capital of a business is not, therefore, money.

Economists generally distinguish between two forms of capital: Fixed capital and Circulating capital. Durable goods like the buildings, plant and machinery are called fixed capital, as they yield their services continuously during the period of their durability. But goods like raw materials, half-finished goods in the process of production, and means of subsistence paid to labour as wages, are called circulating capital. Circulating capital is that which, once used, is incapable of rendering services to production any longer.

In the form of fixed capital, capital increases the efficiency of labour; it enables labour to work better and produce more wealth. In the form of circulating capital, it supplies labour with materials to work upon and supports it during the period of production. The service of capital thus lies in its productivity. Man needs capital, as it lessens his labour and helps him to produce more goods, better goods and goods of new variety. The function of capital is thus essentially productive.

Let us enquire into the real nature of capital. Let us consider how the primitive man could produce new goods, raw materials like wool and cotton, and tools like spears and ploughs over and above the means of his subsistence. A hunter could make a spear of stone or of bone, only when he had a surplus of food he could live upon for a length of time. This surplus, stocked as reserve food, made him free for sometime from the necessity of hunting. It enabled him to utilise this time for the making of a spear. And not only spears, but also any thing else to which his mind happened to take a fancy, such as a hair-pin of bone for his companion of the other sex. The Eskimo who lives by hunting makes his harpoons, bows and arrows, fish-hooks, kayaks, skin-tents and sledges by utilising the time that a stock of subsistence held in reserve makes free.

It is not surplus as such, you will observe, that enables him to make a spear. It is the nature of the surplus goods that matters. If the surplus food be of a kind that will perish quickly, like fish or meat in a hot climate, the surplus cannot be stored or stocked as a reserve of food; it cannot release the labour of man for new goods or things other than food-hunting. The surplus goods must be of a kind that will " keep." It must have the capacity of being held as a stock of reserve for an interval of time. The durability of the surplus, *i.e.*, its capacity to store and give subsistence continuously for a length of time, was the source of the productivity of capital at this stage of man's civilisation. It is also easy to see that as man learnt to rear animals or to grow rice and cotton (or wheat and flax), goods less perishable as food and clothing, his capacity increased

for making a surplus and a stock. The surplus stock of the means of subsistence thus came to be regarded as capital by the early economists. They thought on lines similar to those we have indicated above and concluded that the productivity of wealth, *i.e.*, its nature as capital, rested not only on the creation of a surplus of subsistence, but also on its capacity of being stocked as a reserve for a length of time.

But when division of labour develops in society, there is no necessity to stock the means of subsistence for labour over an interval of time. Shepherds could feed and clothe the farmers, when they were occupied in raising rice and cotton or other agricultural produce that took time to grow and ripe; provided, of course, the shepherds could produce enough for themselves and also a surplus for the farmers.

Now wealth that is not spent for consumption and which is used for production is said to be saved. So it is clear that the farmer's agriculture depends here not so much upon the stocking as upon the saving of the shepherd's surplus, upon the transferability of its use to production. When the division of occupations prevails in society, it is, therefore, obvious that the productivity of wealth, *i.e.*, its nature as capital, depends not so much on the stockable as on the savable capacity of a surplus. The stockable capacity, let us repeat, means the capacity of being stocked or held in reserve for a length of time. The savable capacity means the transferability of its use to production. Both imply the pre-existence of a surplus; for nothing can be stocked or saved for production, unless a quantity of it remains unspent after current consumption. Surplus is thus the source of capital physically.

We must not imagine, however, that wealth is never stocked today for current production. As a matter of fact, it is usually stocked in every branch of production, but only to a certain extent. It is not necessary that the whole amount required for a period of production should be all stocked beforehand: and it is not a fixed stock. It is stocked for convenience, and not as a necessity,—to ensure a smooth and continuous production. The supply of wealth utilised today for current production comes both from past accumulation and present production, from stock as well as saving.

The real nature of capital should not be associated in our mind either only with its capacity of being held as a reserve for an interval of time, or only with the transferability of its use to production. Wealth today assists production both as stocks and savings; stocks and savings alike carry on production that takes time or introduces new goods, by their capacity of releasing a part of the current labour of man from the compulsion of working for pressing present wants. The productive power of stocks and savings thus rests on their capacity to save present labour for *new* goods or *new* ways of making them. The capacity of commodities to save present labour from the making of goods of current consumption is thus the real nature of capital economically.

This capacity to save current labour ultimately depends partly on the physical nature and material capacity of the goods, such as durability in the case of subsistence means and raw materials, and on effectiveness in the case of tools and machines. It depends partly on the power of organisation, as in the case

of division of labour. But both depend ultimately on man's knowledge of his environment of animals, plants and matter; and his competence to invent appliances and devise arrangements by which he can lessen labour. Knowledge and ingenuity are thus the immaterial source of capital, just as surplus forms its material source. Knowledge and ingenuity are hence regarded by some economists as the immaterial capital of society. That knowledge and inventiveness affect production, is too apparent to need discussion. That explains why the primitive man, the hunter or the shepherd, produced so few things and man today can produce so many. That explains why backward peoples produce so little and civilised nations produce so much. It also explains why every civilised nation spends so much annually for schools and universities, for education of the young. Education has to keep up the knowledge which enables men to utilise social resources as productively as they now do. Education aims further at improving the knowledge and ability of a nation to utilise its resources progressively better.

The material source of capital, we have seen, is surplus. So the supply of capital or accumulation of productive wealth must also depend on surplus, a surplus of wealth over what is needed for direct consumption. Individuals earn their income today in the form of money. They devote a part of this money income to meet their immediate needs: we call it spending. But they spare a part to provide for future wants: we call it saving. A surplus of wealth is thus created today in society by a surplus of the individual income over expenditure, *i.e.*, by saving of income.

Now saving depends on three things: the motive or will to save, the capacity to save, and the opportunity to invest. The capacity to save usually increases with one's income. Rich men usually have a greater capacity to save than the poor. The opportunity to invest depends today on the growth of products and mechanical appliances of a type that increases the productivity of land and labour.

The will to save is promoted by foresight and prudence to provide for future needs. No man wishes that his wife, children and other dependants should suffer when he is dead. No one knows when accidents, illness or unemployment may come upon him. Every body fears starvation or misery in old age. So a person saves to provide for himself and his family against the chances of misery in old age or rainy days. Some men again are more ambitious. They want to enjoy a higher income and a better life of ease and prestige in the future. So they save with the motive of an additional income. There are thus two motives of saving: (a) future provision for some probable needs and (b) future income as a means to power or comfort and ease.

The first object of saving could be realised by stocking or hoarding any kind of durable goods like gold or jewels the value of which time would not destroy. Early accumulations took the form of hoarding money or precious metals. But the second object of saving, *viz.*, a further gain of income, cannot be secured by the mere durability of goods. A higher income is obtainable only from the higher productivity of the goods accumulated or saved. This means that money saving should be converted

into such a kind of goods (as machines) that with its aid society can now produce more wealth than before. It obviously depends on invention and progress. Without the progress of knowledge and intelligence, productivity cannot be increased with the help of the " produced goods of production " called capital; and hence an income cannot be secured to capital in the form of interest or profit. People who want to save for an income would not save, unless they find an opportunity to earn this income.

The supply of capital or the growth of accumulation and savings thus depends on many elements: on foresight, prudence, family affection, desire for greater income or power, the number of rich men with higher incomes, the opportunity for investment and mechanical arts of production.

But no man would save, be he rich or poor, if he has reasons to fear that his property is insecure and he will lose his savings at the hands of wicked and powerful men. Security is thus an essential condition for the saving and accumulation of wealth in a community.

Chapter XIV

ORGANISATION OF PRODUCTION

Production of all material goods and even of some services involves a co-operation, a combination, of all the three requisites of production. Neither land nor labour nor capital can alone give us rice, shirts, shoes, watches, guns or railway service. Their production depends upon a suitable combination of all the three. Furthermore, efficiency of production, how much we can obtain from a given expenditure on land, labour and capital, depends on how they are combined. We have already seen that the entrepreneur combines them in due proportion, and the quality and cost of an article depend on his skill. We have also seen that production involves a co-operation of many groups of men, each specialised in a particular kind of work. This is true both of the productive organisation considered as a whole, and of any particular productive unit, a farm or a factory. So we see that the organisation of production is based upon the principle of what economists call *division of labour*. Division economises labour. The individual as well as the collective efficiency of workmen is increased thereby. The more are the parts into which the work to be done can be subdivided, the larger and better are the fruits of wealth that a group of workmen can gather and the community can enjoy.

How is this brought about? It is done in four ways. First, when a man performs the same operation repeatedly, he acquires skill and dexterity that a jack-of-all-trades would never attain. This you can verify easily from any trade or occupation. You

cannot sweep like a sweeper, cook like a cook, farm or fish like a farmer or a fisherman. Secondly, different men are born with different special aptitudes. Some are good at figures, some at painting or carving. Some are good at mechanical work, some at singing or at music. When a work is divided into various parts, you can utilise the different talents of different workmen to their highest possibilities. Some operations require strong men, *e.g.* digging earth or coal. Some are light physically, but require intelligence, *e.g.* accounting. Some again are mechanical and light; even boys can do them, *e.g.* running errands. Some again require an aesthetic taste, *e.g.* architecture or embroidery. This will show how division of labour can increase the collective efficiency of the community, by assigning each special kind of operation to one whose taste, capacity and especial aptitude can do it best. Thirdly, when division of labour so reduces an operation that it becomes very simple, uniform and mechanical, a machine is invented to replace this labour. Machines are thus the outcome of a very extended form of the division of labour. The use of machinery again offers a greater scope for the division of labour. Machines assist manufacture, agriculture, transportation as well as mining: the designing of machines and making them thus lead to new kinds of specialisation. Fourthly, specialisation effects a saving in time. A cultivator in Bengal not only cultivates, but also plies a boat and hawks mangoes, molasses, vegetables or toys according to the season in which he misses his employment. The change of occupation or search for new employment means to him unemployment for days or months. This huge wastage of national labour is suffered,

because farmers are underemployed in our country and have no opportunity for a thorough specialisation that would keep them fully occupied throughout the year. Further, specialisation effects a saving in materials and in tools. When cloth is made by hand, as in the case of the weavers of Dacca and other places, there is much wasted material and each worker requires separate tools and machines. But in a factory the same amount of work is done by a smaller number of workmen, with less wastage in materials and fewer tools and machines. Thus specialisation not only increases the skill of workmen but saves them also from the wastage of time and skill, that is involved in the change of an occupation or in the search for a new employment.

It is perhaps superfluous to point out that specialisation and division of labour are mere different names for the same state of things. When work is divided among different men and each man keeps to the operations of one and the same kind, it is specialisation from the individual point of view, from the view-point of each worker; but it is division of labour from a wider view, from the view-point of society.

DIFFERENT FORMS OF DIVISION OF LABOUR

Individual specialisation or the social division of labour presumes a co-operation between the specialised producers of the community. A farmer would never take to tilling the soil exclusively, unless he was sure that he would get his clothes, oil, utensils and other things from those who produced these goods. And this is true of every specialist worker and producer. Adam could delve exclusively, only when

Eve undertook to spin for him. The primitive division of labour was between man and woman. The man hunted food, the woman cooked it. The man built a shelter, the woman kept it fit for use. This primitive form of the division of labour still continues in modern civilisation. The man makes a home, the woman keeps it: he acquires the means of living, she makes them sustain life and make it worth living; he earns, she administers; an income is secured by him, but the distribution of this income to meet various needs is made by her.

The second form of the division of labour that prevails in society is the division into trades and occupations. The self-sufficient village economy of pre-British India thus consisted of the priest, landlord, *mahajan* (money-lender), merchant, cultivator, potter, milkman, oilman, fisherman, washerman, barber, carpenter, cobbler, blacksmith, goldsmith, writer and astrologer. The occupations of modern India that are found in the census report are similar, but villages (or even districts) are not self-sufficient.

With the growth of population and improvement in the arts of production, a further division of labour appeared in a third form—in the form of an occupation being split up into several complete processes. It was not uncommon in our country a few decades ago for cotton to be spun and cloth to be woven by the same man. Silk is still spun and woven in some districts by one man only. The work of the weaver of former days has now been divided between the ginner, the spinner, the weaver, the dyer and the fuller of cloth. Since the introduction of machinery

and the factory system a still further division of labour has become general. Each complete process has been subdivided into several incomplete processes. Adam Smith (1723-1790), the founder of English political economy and the immortal author of the book known as the "Wealth of Nations," noted that "the business of making a pin is divided into about eighteen distinct operations." John Stuart Mill (1806-1873) stated in his " Principles of Political Economy " that there were a hundred and two distinct branches in the art of watch-making. The writer observed in a small factory at Port Said that there were as many as twenty-two sub-processes in the making and boxing of hand-made cigarettes.

The localisation of an industry in some particular area or place is often called the territorial division of labour. For example, the jute industry is found localised on the banks of the river Hughly, cotton in Bombay, and coal at Raneegunj and Jharia. The name, territorial division of labour, is clearly a misnomer. The concentration of people and factories at a place leads, no doubt, to a further division of labour. But the concentration itself does not constitute what we call division of labour. You may call it the territorial specialisation of industries.

DISADVANTAGE OF DIVISION OF LABOUR

The different forms of the division of labour including its higher degrees have gradually developed because of its advantages in economising labour. It is bound to develop still further. Let us not imagine, however, that the division of labour is all honey with no bitters in it. There are disadvantages in the

division of labour and some of them are great social evils. When a man makes one small part of an article instead of the whole of it, such as the dial of a clock or the sole of a shoe, he becomes after a time incapable of doing anything else. This means he grows less efficient as a producer. Mental concentration on a small process takes away a man's interest in the article itself; this tends to make his mind narrow. Thirdly, when a man repeats the same operation day after day, the monotony of his work stupefies his intellect. He loses freshness and alertness of mind. He loses his spirit of initiative. These are, no doubt, great evils, economically as well as socially. Against these evils, we must put on the other scale the good that division of labour has brought into being, the level of plenty and luxury that it has given to our masses and which even the Pharaohs could not dream of nor the Cæsars ever attained. Evils, however, never cease to be evils, even when they are correlated with benefits of some kind.

Besides these evils that directly attend the system of division of labour, there are some indirect disadvantages that are usually associated with it. The commonest forms in which the division of labour materialises are mills and factories and overcrowded towns and cities. Mills and factories come into being, because large production needs machines, and labourers must come together in one place to work these machines. Crowded towns arise out of factories: for workers must live near the factories, if they have to work them in great groups. They bring in their train insanitary and immoral conditions of life. The employees miss the personal touch with their employers, and harsh and cruel treatment is often the

result. The conflict of class interests between labour and capital has mostly originated in this way.

CULTURE OF GENERAL INTELLIGENCE AND CHARACTER

Is it possible to reap the advantages of the division of labour without its disadvantages? There is no reason theoretically why we should not be able to solve the problem. The solution seems to lie in the improvement of general intelligence and character. If education increases the workman's intelligence and kindles a general interest in things, his mind would not get narrow nor his intellect dull. A higher tone in character will incline him to spend his leisure not in drinking or in vice but in things and activities that improve his health and tastes, sharpen his intelligence, and stimulate hopes and habits which lead to further efficiency. Increased intelligence will result in improved machinery, and machines will take up the work that is wearisome and monotonous. The increased use of machines in its turn creates a greater demand for general intelligence. A more humanitarian treatment of labourers and a greater attention to the conditions under which they work will improve them physically, morally and intellectually.

EFFECTS OF MACHINERY

We have already seen that machinery is both a cause and an effect of the specialisation of labour. Let us now consider the effects of machinery. It is easy to see how machines have lightened the labour of men and beasts, how they have lessened the toil of physical exertion and the monotony of life and work.

Palanquins have been replaced by motor cars, carts by lorries, country boats by steamers, and horses by rails and engines. In every civilised country machines have considerably relieved the strain and fatigue from which cultivators, carpenters, smiths and cobblers suffered a few decades ago, and from which they suffer in our country even now.

Machines of certain types have increased the command of man over nature. They have given us power to do things that were inconceivable before. Cranes lift steamers out of water for repair or paint. Hydraulic or steam force exerts a power that is beyond the capacity of any combination of men. Aeroplanes have enabled us to fly through the air, television and telephone to see and speak from miles away. Machines enable us to run trains, light mines and seas, and record scenes and voices.

Machines again have given us the ability to do work that is too accurate or too delicate for human hands. The stitches of a needle are never uniform, however skilful the seamstress may be. Screws, nuts or machine-parts made by hand can never be the exact replica of one another. Thus it is that the broken parts of a machine, made by machines, can be easily replaced by its interchangeable parts. Thus it is that standardisation and mass production have made their appearance not only in the manufacture of cars, watches and metallic requisites of buildings or bridges, but also in the making of shirts, coats, collars and shoes. Mass production with machines has cheapened production and created a greater demand.

The dark aspect of machinery is that it is often a substitute for manual skill or such mental labour as is involved in making addition or multiplication. And if the cheapening of goods is not attended by a large increase in demand, which may not be the case, as demand is affected by many factors such as the volume of purchasing power in the hands of the consumers and the general condition of industry at home and abroad, the introduction of machinery may lead to unemployment.

Chapter XV

ECONOMIES OF LARGE PRODUCTION

The economy of division of labour is the product of two elements, the efficiency of the specialised skill or machinery and the sufficiency of its employment. It is not enough that the specialised men or machines are efficient; sufficient work should keep them fully employed. It follows from the above that there can be no specialisation of men or machines unless and until the volume of work is large enough to keep each specialised man or machine sufficiently occupied. That is to say, division of labour or the degree of specialisation depends on the largeness of production. The largeness of production, however, need not necessarily refer to the output of an individual firm. Several of the economies, no doubt, depend on the size of a factory; several, but not all. Many of the economies of division of labour may well be derived from the total volume of production in the neighbourhood. Some like the improved knowledge and methods of production depend chiefly on the aggregate output of the whole world. Marshall, the late famous English economist of Cambridge, divides these economies (that arise from a large scale of production of any kind of goods) into two classes. Economies that owe their origin to the large output of a particular firm and to its resources, organisation and efficiency of management, are called *internal economies*. Those which arise from the general development of an industry or from the concentration of many firms in a particular locality (known as the Localisation of Industry) are called *external economies*.

LOCALISATION OF INDUSTRY AND EXTERNAL ECONOMIES

In modern production men and machines are specialised wherever there is a sufficient volume of work to keep them constantly engaged. In order to take advantage of the methods of specialised production, every business man is thus tempted to establish his firm in a locality where there are many other business houses of a similar character.

The causes of the concentration of firms belonging to a particular industry in a particular locality can only be known accurately when we study its history. But there are chiefly three economic influences that determine the localisation of an industry. Of these the most important is cheap power, in the form of coal or water. Formerly, factories were generally set up on the banks of swift rivers; now-a-days they cluster round coal mines or crowd about hydro-electric works. The second great influence is nearness to raw materials. The manufacture of steel is localised near the ore-deposits or on sea coasts where foreign ores are imported. The third great factor is the facility of marketing. Industries are attracted to the neighbourhood of big towns or harbours where they can find an easy market for their wares. The concentration of jute mills on the banks of the Hughly and of cotton mills in Bombay is due to the second and third causes. The collieries have localised at Raneegunj and at Jharia chiefly as a result of the second influence.

Physical and political factors sometimes also determine the localisation of an industry. Fine textiles have set up their home in Lancashire because of

its climate. The Muslin industry flourished at Dacca and silk at Murshidabad under the patronage of Nawabs and noblemen.

Localisation offers opportunities for greater specialisation. Most of the advantages of localisation, therefore, are those of specialisation. The concentrated industry can organise a number of special services which it is beyond the competence of an individual firm to command or maintain. The most important of such special services is the specialised market, which makes it easy for the manufacturers to obtain their raw materials and to dispose of their finished goods. Another type of specialised services is that subsidiary trades grow up in the locality. They supply the staple industry with specialised machines and materials. They offer facilities of transport, banking, insurance and commercial intelligence. Scientists often turn the waste materials or products of individual firms into a useful by-product of the industry. Other incidental advantages follow. Localisation creates a demand for skill. Workers flock to the locality, for they find higher wages and better prospects for their specialised skill; and it encourages them to specialise still further. The employers find it easy to select the right kind of labour. Secondly, the industry promotes a kind of hereditary skill; the children acquire the skill of the trade easily and unconsciously. Thirdly, it encourages inventions and improvements in machines, processes and organisation of production. New ideas command attention, evoke appreciation, stimulate suggestions and create ideas still newer. Lastly, when a number of goods are produced in the locality, the reputation of one facilitates the marketing of another. Thus Sheffield

cutlery popularised its steel products, Swiss watches jewellery of that place, Dacca muslins conch-shell bracelets of Dacca.

LARGE-SCALE PRODUCTION AND INTERNAL ECONOMIES

We have just considered how the largeness of production that the concentration of a number of firms effects in an industry contributes to what Marshall called *external economies*. Let us now consider how an increased output of a particular firm, an enlarged scale of its production, brings forth economies that are known as *internal*. The advantages of large-scale production are very like the advantages of localisation. They are likewise based chiefly on the increased specialisation of men and machines which a large output makes possible. The resulting economy lowers money expenses of production. A large firm can engage specialised workmen of the highest skill and it can use expensive machines, each made specially for one small purpose: for it can keep them fully employed on their special work. Such an attempt would be wasteful on the part of a small producer. For instance, it is cheaper in the long run for a big steel works like the Tata's to have a private railway to carry its coal or ore-deposits to the factory. It is similarly cheaper for a big oil trust like Rockefeller's to distribute its oil through a system of pipe-lines. But no small producer can afford this huge initial outlay, nor would it pay if he could. Secondly, in transport services and manufacture the cost of production does not increase proportionately as the output of the firm increases: the cost per unit rather gets less. Doubling the number of trains need not

mean that the lines, stations and railway staff must be doubled, although it would enable the railway to deal with at least double of the traffic. Similarly, the doubling of output in a factory would not mean that its machines, engineers, managers, accountants, clerks, and costs on fuel, packing or selling must be doubled. Thirdly, a large firm loses less in waste and it can also produce a new article out of its waste materials. Fourthly, it pays a large firm to make experiments with a view to improve the process of production or to introduce a new variety or pattern. One successful attempt would more than cover the loss of many failures: but no small producer can afford this expense and risk. Fifthly, large purchases of materials are more economical; so a large firm often gains in purchases. And sales in large amounts similarly save a good deal by reducing the incidental costs of selling. The cost of transporting goods is often less for big producers: for railways and shippers offer them specially reduced rates. Lastly, advertising is less costly for the expense is distributed over a larger output. And when more than one article is produced by a firm, one good automatically advertises another. For all these reasons production on a large scale lessens the cost of production.

The advantages of large-scale production (or of division of labour) are not, however, unlimited. Had they been so, small producers would have long ceased to exist. Small firms as a matter of fact exist side by side with big firms and even compete with them. The strength of the small firms lies in the weaknesses of the big. We have already noticed how

the economy of specialisation depends upon the largeness of production. But production cannot be large, unless the market be wide, that is, unless there is a large demand. That is why Adam Smith taught: "the division of labour is limited by the extent of the market." In feudal Europe or in the self-sufficient villages of older India, the market was confined to a small village; production, therefore, could not be large, and the scope of division of labour was restricted. As the market expanded with good roads and canals, navigable rivers or railways on the one hand, and the cheapening of the cost of transportation on the other, the volume of production at a factory or at a locality began to get larger. The industry has since been reorganised on the basis of localisation and large-scale production.

There are, however, certain articles and services for which the demand is not large. It is here that the small firm thrives. Some men are not satisfied with ready-made shirts or shoes; these fail to fit them exactly or gratify their taste of refinement. Small firms of tailors and shoemakers owe their existence to it. This is also true of many articles of art and beauty. Things like Dacca sarees, Kashmere shawls, and ornaments or jewellery are thus articles for small producers. Mass production on a large scale cannot completely satisfy individual tastes. That is why small firms cater for them.

The second kind of disadvantages a large firm suffers from is the difficulty of management. In a small firm the master's eye is everywhere and wastage is small. In a large firm wastage is greater, especially if it is a joint-stock company managed by salaried

men. There are many who can manage business worth a few thousand rupees, but business worth a crore or more can be ably managed only by a few. And men like Carnegie and Ford who can manage giant Trusts are rare. The scarcity of able managers is thus a reason why the scale of production cannot expand indefinitely even in a resourceful firm.

Thirdly, a large firm cannot change its organisation and adapt itself to new lines of production, because it is based upon an extensive specialisation of both men and machines. But a small firm can do so easily and quickly, for it has no such specialisation. Things and articles for which the demand changes frequently or suddenly cannot be produced on a large scale. They provide a field for the small firm. For similar reasons it is the small firm that often initiates new types of business, adopts new processes or creates a new market.

Lastly, technical reasons sometimes prevent production on a large scale. We do not find large firms engaged in the cutlery and other light metal trades. Small shopkeepers are common in many of the repairing businesses.

The external economies in the shape of commercial information, scientific knowledge, cheap transport, and facilities for banking and insurance, no doubt, help the small producers to a certain extent to hold their own against the large concerns. But the general tendency, nevertheless, in many industries is that the large firms drive out the small. This shows obviously that the advantages of the large firm often outweigh its disadvantages on the whole.

INCREASING RETURN

We are now in a position to understand the tendency that economists call the law of increasing return or diminishing cost. The law is said to operate when an increase in the supply of a commodity brings about a fall in the unit cost of production. The economies of large production will explain the lowering of cost in its various applications. First, when a firm works at its fullest capacity, its overhead costs including the salaries of managers, the cost of office establishment, sales organisation and rent *et cetera* are spread over the largest number of units produced; and hence the cost per unit on this account comes lowest. Secondly, a difference in the size and technique of different firms will entail a difference in the cost: for, arrangements are usually superior and specialisation is more extensive in a large firm than in a small; that is to say, more men and machines and tools are employed, each put to a narrower range of work. Hence the efficiency of each man and machine is better and the sufficiency of its employment greater. Thirdly, the different methods of production adopted by different firms lead to a difference in costs: the firms that can make use of the latest inventions and the newest discoveries in the technique of production naturally reap advantages which are missed by others. Moreover, different methods are often found most profitable for different outputs, and the output of a firm has to be limited by the probability of marketing it.

As a matter of experience, we find that a greater economy in the use of labour and capital goods is

possible to be effected for a large output in manufactures, commercial concerns as well as transport services. Increasing returns or diminishing costs thus prevail, as a rule, in all these industries.

In extractive industries, on the other hand, diminishing returns or increasing costs are generally found to be the rule. The scope for specialisation and economy does not grow in this case with the increase of output. The scope of the economies of organisation is restricted; and they are often more than set off by the disadvantages that the scarcity of land or the fixed bounty of Nature causes in extending production. This is why agriculture, mining and fishing are attended by increasing costs. The only way in which we can combat this natural tendency is to invent new scientific processes and to improve our organisation (*vide* Chap. X). That is why peasants sometimes take to artificial manuring or to a superior rotation of crops or to co-operative methods in the purchase and use of machinery. We can stop, no doubt, the operation of diminishing return in this way for the time being, but we cannot stop the tendency. Let us recall to mind what we have already learnt in Chapter X. Let us remember that diminishing return may sometimes attend manufacture or transport, and it is not peculiar to agriculture, as the older economists thought and believed (See p. 65, Chap. X).

Increasing return is mainly the result of economies brought about by man's capacity to improve organisation and increase capital. Decreasing return is the effect of the limitation of "land" as well as nature's bounty (in the shape of sunshine, rain, moisture together with physical,

chemical and bacteriological properties of soil and air). Where the two tendencies, *viz.*, the tendency of improved organisation and capital conditions to reduce the unit cost of a commodity and the tendency of Nature to increase the unit cost of its raw material, balance each other, we have the case of constant return or constant cost. In pottery and handicrafts like basket-making and making of conchshell bracelets, the scope for applying capital and specialisation is limited; while the supply of raw materials like clay, cane or bamboo is practically unlimited: the unit cost, therefore, of these articles remains constant, even when its supply is considerably increased. The small economy which can be effected by specialisation, organisation and capital is just counter-balanced here by the difficulties of finding or preparing raw material; the constant cost or return is thus the result.

Chapter XVI

ORGANISERS OF PRODUCTION

We have already considered how the modern organisation of industry is based upon the principle of specialisation. We do not ourselves make the shirt or the watch we want. We simply buy them: they are made by the combined exertion of thousands of specialised workers. These workers work in various industries. The industries are located at different places—and sometimes all over the world. Every industry is specialised, and often only for making a part of an article. Let us call to mind the picture of co-operation that we drew up before (pp. 25-26) among the various specialists. Let us remember how a modern shirt is made; how its making depends on the co-operation of cotton farming, spinning, weaving, finishing, clothing, machinery, coal, transport, banking and many other industries. Production by specialised men and specialised machinery necessitates this co-operation. Co-operation is necessary between the landlord, the labour and the capitalist to set up a firm or a farm and to continue production. Co-operation is essential among the firms of the same or of different industries for obtaining raw materials, machines, power in the shape of coal, petrol or electricity, and for the disposal of the product as well.

Those who organise this co-operation either to initiate or to continue production are called entrepreneurs or business men in the widest sense of the term. They fall under two classes. Those who organise this co-operation between the landlord, the

capitalist and various grades of labourers and provide an article or a service are the industrialists proper. They include farmers, manufacturers, miners, and fishermen as well as transport agencies. Those who link the different firms or industries by procuring for them raw materials, machines and power or by the disposal of their finished goods are merchants or middlemen. Both these classes of manufacturers and merchants should be regarded as organisers of social production.

There is a third class besides. Production today requires a long time of preparation and equipment. Producers are nevertheless expected to keep their wares always ready for the consumer's purchase. We want a shirt immediately on demand, but it would take about two years if everything required for producing it, including cotton and machines, had to be raised or manufactured anew and was not ready to respond to our unknown demand. Production is hence undertaken today in anticipation of demand and on an estimate of it. A wrong anticipation as to the kind of the article wanted or a wrong estimate as to the amount of demand will cause a loss to the producer. Production is considerably risky *now-a-days. Risks of production are many:* demand may change by the time the supply is ready, or the supply may fail to come up to the necessary demand. All producers, of course, have not an equal capacity to take on these risks of the uncertain future. So social organisation has shifted these risks of production to a special class of dealers, known as speculators. They make it their business to collect all possible information as to the supply of and demand for a commodity. Their task is to make a correct estimate of the anticipated demand and supply. These expert

speculators, who regulate the supply and demand for a commodity, form another class of organisers for social production.

To these three classes of organisers we may add a fourth. They are *mahajans* (money-lenders), bankers and banking houses. People earn their income in modern society in money, and not in goods. What they want to save for future provision or plenty or power, is also done in money: indeed, they cannot generally save otherwise. Now this saving, that is to say, the spare portion of their money income may be put to productive use. This means that this money which has been saved would set at work land and labour as well as existing capital goods for the purpose of production. This saving, advanced to producers, is what borrowing business men and people in general call capital; and the men who make the advances are called capitalists. Capital means to business men the amount of purchasing power that they employ or that is advanced to them for employment in production. But economists, we must remember, never mean by capital the money or purchasing power that a farmer or a manufacturer borrows for production (See Chap. XIII). Capital means to them the amount of various material goods which a business man uses in pursuance of production. Money can never be a factor or constituent of physical production. For gold bars cannot be planted in fields to grow rice or cotton; silver rupees cannot be spun into yarns to give us cloth or linen.

It is the business of bankers to collect savings from scattered individuals of the community and advance them together with their own money to all

classes of producers. The bankers thus act as middlemen between the savers who have spare money with no immediate use for spending or consumption and the business men who want to invest it in production. Interest is the price or reward that induces the people having spare money to part with its control for a period of time. In any advanced economic community bankers thus play an important part in the organisation of production.

THE SERVICES OF SPECULATORS TO SOCIETY

In adjusting demand to supply, both uncertain and unknown, the speculators render two incidental services to society. They quicken the adjustment of demand to supply: they lessen price fluctuations. In industry today the quantity of demand as well as supply cannot be known accurately, for conditions are mostly uncertain. Demand fluctuates because what consumers want and how much they want is constantly changing. Fashion, famine or flood often changes the demand. War, weather and waves of prosperity always cause its undulations. Substitutes sometimes affect the demand for a commodity: Tea has diminished our demand for milk as a drink. Fashion determines whether we will want more silk or more cotton next summer; whether sandals or slippers will be our favourite. Weather decides how much of winter goods men will wear. War conditions determine the demand for military materials and hence for civil requirements. It is the business of the speculator to adjust supply to this uncertain demand. The supply of raw materials like cotton and wool, or of food stuffs such as rice and sugar, is equally uncertain. The

peasant sows his land, but how much he will reap is decided by Nature and weather. It is again the business of the speculator to adjust this uncertain supply to an anticipated demand as best as he can.

In adjusting unknown demand and supply to each other the speculator's knowledge, judgment and foresight are important assets to society. Price rises with a shortage of supply and falls with a glut. Suppose that an expert dealer, with his skilled knowledge and superior judgment of the market, foresees a scarcity of cotton next year and a consequent rise in price. He buys now and stocks it for the future in the hope of selling it later at a high profit. Others follow him and do the same. The demand rises because of this speculation. Price hence rises to a certain extent. Purchasers therefore buy less, while producers try to increase their supply. Suppose the present price rises as a result, to Rs. 9 in place of Rs. 8. But the future price actually rises less, say to Rs. 10 instead of Rs. 11, because of the stocks of the speculators as well as of the producers' stimulus to increased supply. Price thus actually changes from Rs. 9 to Rs. 10. But for the speculator, it would have risen from Rs. 8 to Rs. 11. Speculators thus help to quicken an adjustment of supply to demand and to steady prices.

In case a glut is expected together with a fall in price, the speculator begins to sell. This speculative selling lowers the present price, stimulates the present demand, and discourages future production. The future supply does not become in consequence so plentiful as was anticipated nor the price falls so low. Speculation thus makes the price more even between the present and the future.

But much speculation that is carried on to-day is not of this beneficial character. The profits of the expert attract amateurs who have neither knowledge nor experience. With inadequate training and often with insufficient capital they come to dabble in transactions that often baffle the best business ability and experience. The result is disastrous both for themselves and for the industry. They are mostly ruined, and the industry sometimes gets dislocated. Besides these ignorant or inexperienced amateurs, there is another class of illegimate speculators who deliberately manipulate the market to create an artificial glut or shortage with a view to making profits. They ruin the honest producers and they ruin the industry. They are enemies of society and disorganisers of productive organisation.

Chapter XVII

DIFFERENT TYPES OF BUSINESS ENTERPRISE AND PROFIT

The oldest and the simplest type of business is the " one man business " and it is still prevalent and common. That one man is the classical economist's capitalist who, in the language of J. S. Mill, " from funds in his possession pays the wages of labourers, or supports them during the work; who supplies the requisite buildings, materials and tools, or machinery: and to whom by the usual terms of the contract, the produce belongs to be disposed of at his pleasure." Most small businesses are generally set up by men with their own capital. Capital, in the form of liquid funds of money or purchasing power, is essential for any business man; for, without it he cannot employ labour, hire land or buildings, nor buy materials or machines. But capital alone cannot satisfy the needs of a business. He must have sufficient ability and enterprise as well. Without ability and enterprise no man can succeed in business; he will soon dissipate his capital. Capital and ability are both essential for business success. Private firms are often established by men who have capital, but have no ability. Herein lies the weakness of the private firm. Unless the capitalist-owner can secure the services of a manager who is not only capable but also trustworthy and honest, his business cannot prosper.

The partnership form of business removes this defect of the private firm. Here the capitalist may run

the business with the help of an able partner who possesses no capital. Or, it may sometimes be that two men have each some capital as well as ability, but the individual capital of one is inadequate to start a business. So they combine their capital and form a partnership. The advantage of the partnership is that it can put more capital into the business and divide the work of management to increase efficiency. But its weakness shows itself when the interest of the capitalist-partner in the concern is not adequately shared by the labour-partner. The strength of the private firm lies in unifying the interest of the capitalist-owner with the responsibility of good management. Bad management hurts his capital as well as his profits, and so he tries his utmost to manage his firm as best as he can.

With the growth of large scale production, another type of business enterprise has come into being, and it is now dominating the field. This is the joint-stock company. The larger size of business units requires larger capital, and it is often beyond the competence of one or a few to provide the necessary capital. Secondly, a man, even though he might possess the requisite amount of capital, would not like to "put all his eggs in one basket." He would not risk all his capital in one venture and would like to distribute it among different enterprises, so that any misfortune in one might be made up by luck in another. This led to the introduction of the Joint-stock Company. Here the stock or capital necessary to start business for a big enterprise is supplied jointly by many men. Some businesses, such as railways, tramways and the supply of water, gas or electricity, require an enormous capital. So joint stock companies come to start and operate

them. Other businesses like Banking and Insurance and Building Companies not only require a large capital but also need publicity as well as the sympathy and confidence of people. Joint Stock Companies serve these purposes equally well. But certain defects in law appeared to have hampered their progress at the beginning. Law first treated the shareholders of a joint-stock company as partners merely, and made them jointly and severally responsible for the debts of the company to the full capacity of their private possessions. A man could lose all his property under the law, simply because he had purchased a ten-rupees share in a company which has unfortunately run into debt. The operation of the law in this way, far from lessening the risk of investors, rather made it more fearful. The law was therefore revised and the principle of limited liability was introduced into it. A man's liability was now limited to the amount of his share capital. His liability ended as soon as it was fully paid up. No creditor of the company could now touch his private fortune for its debts. Joint Stock Companies have grown rapidly since then and it is at present the dominant type of business undertaking.

The system has grown popular for several reasons. It offers an opportunity to all men possessing savings, small or large, to obtain an income from them, without personally starting or managing a business. These investors may be actually employees who earn their living by labour. Or, even if they have no employment, they may lack either adequate ability or capital, or both, to earn an income from enterprise. Secondly, the system offers a variety of choices as to the way in which

a person can hold his capital to suit his individual taste or personal requirement. Joint-stock Companies raise their capital in a number of ways. First, they sell ordinary shares. The share-holders are legally the owners of the Company, who have power to control the management and share in its profits and losses. Those who do not mind an uncertain income and enjoy in their mind the prospect of a high dividend, generally prefer to hold their capital in the form of these ordinary shares. But there are people or institutions like Universities, Hospitals, Churches or Charitable trusts, that would like to have a fixed and certain income from their investment. For them the Joint-stock Company sells Debenture shares. These are not, really speaking, shares at all; they are loans made to the Company on the security of the Company's property and are entitled to a fixed and certain rate of interest. Ordinary share-holders are the proprietors of the Company, while Debenture-holders are its creditors. That is why the interest of debentures is the first charge that must be paid before any dividend can be declared for the ordinary shares. Debentures do not carry with them any right to govern the Company. There is another class of shares, called Preference shares, which occupies an intermediate position between Debenture and Ordinary shares, as regards its legal claim and security. Preference shares receive a fixed rate like the Debenture, but the rate is higher because of the relative uncertainty of payment. In times of difficulty, they rank second to the Debenture shares for their claim to payment and are given only what is left after meeting the claim of Debentures. Ordinary shares, of course, get nothing in these cases.

Perference shares are of two kinds: cumulative and non-cumulative. Cumulative preference shares have the right of reimbursement of one year's deficit out of the succeeding year's income, before dividends are declared on Ordinary shares. The claim of non-cumulative preference shares is confined to each year separately: the deficit of one year cannot be made up here in another.

Limited liability is so safe and convenient to investors that many businesses which are really private firms owned by a single man or family give them the legal form of a limited liability joint-stock company. Whenever you find the word *Limited* or its abbreviation *Ltd.* at the end of the name of a firm, it will show that the company is of limited liability: *e.g.* The Calcutta Electric Supply Corporation, Ltd.; Messrs Thos. Cook & Son, Limited.

There are two other important types of business prevalent in modern society. One is Co-operative undertakings and the other is the State or Municipal enterprise.

Co-operative undertakings have made their appearance to secure to the consumer a reduction in the price that he pays for commodities. A part of the price we pay as consumers goes to the manufacturers or middlemen as profits. This part sometimes strikes the consumer as excessive or as an unnecessary drain on their slender purse. So they sometimes attempt to supply their requirements through an organisation of their own, which manufactures or sells what they need. These enterprises are called co-operative, because here the control is exercised by the consumers themselves, who

co-operate to cheaply acquire what they want. They resemble, no doubt, the Joint-stock Companies inasmuch as their capital comes from a large number of men and that interest is paid on this capital. But the great difference between the two lies in the fact that these capitalists are consumers themselves, and that production is undertaken with the main motive of deriving benefit as consumers, and not profit as capitalists. So the profits of a co-operative society are not distributed according to the amount of capital that a member has subscribed, but according to the amount of his annual purchase. In pursuance of the same principle no member is allowed to have more than one vote in the exercise of his control over the enterprise, irrespective of the amount he has invested.

Government or Municipal enterprises, like railways, tramways, telegraph or postal services or the supply of gas, water or electricity, owe their origin similarly to give the rate-payers and citizens the consumer's benefit, and not the capitalist's profit. The capital is secured like that of a Joint Stock Company from the private investment of citizens on the security of the revenues of the Government or of the Municipality, but the management is left with its political machinery. The efficiency of management obviously depends here on the spirit of public service that animates its citizens in general and its public servants in particular. There are some countries like Germany which can very well boast of the efficiency, honesty and spirit of service that characterise their officials. But unfortunately we are unable to claim this compliment for our public servants.

Of these five main types of business enterprise discussed above, the last two alone, viz., the Co-operative Society and the Government or Municipal enterprise work directly for the consumer's benefit. Other types such as private firms, partnerships and Joint Stock Companies work primarily for the capitalist's profit. These latter constitute by far the larger portion of the total number of enterprises in the community. This must not suggest to the reader that all enterprises except the Government and the consumer's must be wicked. Far from it: capitalist enterprises may prove more economical to the consumer and the Municipal or the Co-operative more wasteful. All this depends upon how efficiently the management is run: at how low a cost the enterprise can offer its commodity or service to its customers. An inefficient Municipality will charge its citizens higher rates for water, gas or electricity. An inefficient Government service like the railway transport or the postal communications of India may be actually more costly to the people than that of an efficient private capitalist enterprise.

Let us understand very clearly that a business income is what we call profit. As no business can be set up and run without capital, so every business must earn an income for the capital invested in it, called profit. A business provides a good that the community needs. No business can exist and serve society by making the necessary goods, unless it can earn an income for its capital, a profit. The service that businesses can render to society, viz., the provision of goods to meet various social needs, thus depends on profits.

This subordination of service to profit by the business man is not wilful. It is forced upon him by the mechanism of money and exchange, with the aid of which he has to produce goods or services for society. It will appear obvious to us in a moment, if we consider how a business man can utilise land, labour and capital goods to produce a commodity and how he can transfer it to consumers for whose satisfaction he makes it. In order to produce a commodity he has to purchase the services of land and labour as well as capital goods and this purchase price constitutes his expenses of production for the commodity. Production therefore involves a business man in the purchase of the elements that enter into the product. Nor is this all: he must sell the commodity so produced to his customers at a surplus over the expenses of producing it, that is to say, over the purchase price of its elements. This surplus is essential to remunerate the money capital that is invested in his business; and this surplus is called profit. It will explain how profit takes precedence over product in the running of a business. As food is to an animal, so is profit to a business: it cannot exist and continue production otherwise.

Chapter XVIII

COMPETITION AND MONOPOLY

We have seen in the last chapter how profit is necessary for production and for the producing class. Profit means an essential income to business men,—the income which attracts them to business, the reward which induces them to make provision for social wants, to supply necessary goods or services. Just as labourers need wages, landlords rent and lenders of money interest, so do business men require profit. This is obvious enough.

Now this profit or business income depends on two elements: the surplus of the price of the product over the unit cost of its production, and the volume of its sales. When there are many producers, all eager to sell one and the same commodity, they are forced by the pressure of their competition to sell the commodity at the price ruling in the market. They cannot charge their customers any price they choose; purchasers will always seek the producer who sells cheapest. The means thus open to a seller to make a profit under competition is not the price, but the expenses of production. To the degree that a producer succeeds in keeping his cost of production lower than others, he obtains a better margin (of difference between the price and the expense of production) and hence a greater profit. Nor is this all. With the same margin of difference, one producer will earn a larger profit than another, whenever he has a larger sale. Competition, that is to say, the striving of producers to increase their income or profits, thus finds expression in two forms: (*a*)

attempts to lower costs and (*b*) attempts to increase sales or, what is the same thing in the technical language of the economist, to expand their market. We shall have to examine them in detail when we study profit under Distribution. For the present let us confine our attention to the way in which these two objects influence the activities of producers and sellers.

The lowering of costs, we have already seen in previous chapters, depends upon economies of larger production, greater specialisation of men and machines. The larger scale of production is thus the means of attaining both the ends in view, lowering the costs as well as securing a wider market.

The striving for profits, therefore, leads every business man to aim at higher prices and larger production. Competition, the presence of rival producers and sellers in the market, however, stands in his way. For competition between sellers lowers the price, just as competition between purchasers raises it. Higher price and larger production, though simultaneously possible for an individual business man and greatly desired by him, cannot unfortunately co-exist in a market. For a larger supply cannot be marketed except at a lower price. That follows from the law of demand.

For these reasons producers often combine together either to raise prices or to lower the expenses of production by a larger output. When all the producers combine in such a way that their entire production as well as sale is controlled by one and the same agency, we call it a monopoly. Monopolistic combinations owe their origin, as we have just shown,

to the prospect of the profit that a higher price or a lower cost is likely to yield. There are various forms of these combinations. A temporary combination of dealers to control the sale of a commodity for a short time is known as " Cornering." Another loose form of combination is the price-agreement, whereby the dealers agree to observe a common price-list. It is an informal understanding merely, and not a contract. Here the producers are at liberty to produce and sell as much as they like. There is no agreement as to their individual output. Price-agreements are common amongst the goldsmiths and metalware merchants in almost every town in India. Calcutta residents will find it the practice among the *khus-khus* screen-makers and fisher-women as well. The consequence of these feeble bonds often is that many dealers break away from the price-agreement stealthily or openly, when they are unable to sell all they have produced and thus face losses. The typical German combination called the *kartell* is free from this defect. There the manufacturers agree, in the form of a legal contract, to produce only a fixed percentage of the entire output; and to hand over to a central agency the whole of their individual output for the purpose of sale. The central selling agency can fix any price—and with the dealers' consent also the output—to maximise profits. In the German Kartell the producers retain their independence in the management of production. But in the American Trusts, the combining firms completely surrender their individual interests and independence to the newly formed combination. The Trust dictates output and determines the specialisation for each of the firms it chooses to operate. It can close some, if the firms appear to

be too many. It fixes price and decides upon the centres from which its customers must be served. The modern type of trusts is a complete amalgamation.

Let us remember that the complete control of output in an industry by a single agency is what is known as a Perfect Monopoly. Where there exists no control and there are innumerable producers, each producing only a very small part of the total output in the industry, we have Perfect or Unlimited competition. Competition between producers lowers prices and sometimes destroys their individual market; that is why it is so much dreaded. Monopoly controls output and raises prices; that is why every business man has a longing for it. Consumers, on the other hand, welcome competition between producers and sellers, as it ensures for them the lowest possible price. Monopoly they resent, as it usually exacts from them " what the traffic would bear."

Whatever might be the dislike of consumers for monopolies and combinations, to a certain extent they seem to be inevitable in our society. All kinds of monopolistic combination are not due to the dread for competition or to the pooling of profits. In certain industries competition is wasteful or futile, or it leads to inefficient service. Monopoly is here an economic necessity. This class of industry comprises the supply of water, gas or electricity; tramways and tubes and railways; postal, telegraph, radio and telephone services. Competition in these industries would mean duplication of plants and expenses, but no better services for consumers. That is why competition in these would merely waste social resources. If two or more telephone companies

operate in a city, they would be less useful to its citizens; for subscribers of one line would not be able to speak to those belonging to another. If two railways or tramways serve the same locality, the competition will soon ruin the weaker of the two. Competition is thus not only wasteful but also useless in the long run.

It is, therefore, clear that it is not always possible to prevent monopolies from dominating certain industries. But in all these cases the State should control these monopolies so that they may not seriously hurt the interests of consumers.

Many of the industries, however, belong neither to Perfect Monopoly nor to Perfect Competition. They run more or less a middle course between the two.

Chapter XIX

MONEY AND EXCHANGE

We have seen before* how exchange increases the utility of goods to those who interchange them; how exchange can be regarded as a form of productive effort; why exchange is necessary today for satisfying individual wants; and how exchange is the indispensable concomitant of individual specialisation. We have also seen how barter puts people to serious difficulties: how it necessitates the double coincidence of wants—of goods wanted and offered; how it provides no means of subdivision, nor a common measure of value.

When more than two things are exchanged in the market, the want of a common means of payment fails to correlate the different exchange-values of different pairs of goods to each other. Ordinary prices are so related that the price of A in term of C is always equal to the product of the price of A in terms of B and the price of B in terms of C. This would not be the case in barter: the exchange-value of A in terms of C may be greater or less than the product referred above. If, for example, one seer of ghee exchanges for ten seers of rice, and one seer of rice for five seers of brinjals, one seer of ghee would not exchange in barter directly for 50 seers of brinjals. It would exchange, say, for 45 or 55 seers of brinjals.

Why? Because a man's demand price (the price he is willing to pay rather than go without it) measures

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**See* Chap. IV, pp. 21-24.

the marginal utility of the commodity acquired.[1] The price he pays corresponds to the marginal utility sacrificed.[2] In a barter the price he pays, that is to say, the sacrifice he makes, is not the money but the commodity that is given up. Now the marginal utility of the commodity either acquired or sacrificed is quite different for different men. It depends on one's intensity of desire for each commodity.

The marginal utility of a given quantity of brinjals to the man with *ghee* may be quite different from that to the man with rice. This will explain why the rate that is accepted by the man with rice for obtaining brinjals directly for rice may not be acceptable to the man with *ghee* for a direct exchange of brinjals with a corresponding quantity of *ghee*.

Whenever it happens that prices are not in harmonious relation with each other, an *indirect exchange* develops with a common means of payment. If, for example, the brinjal-man finds that he can get more *ghee* by offering rice to the ghee-man than by a direct offer of brinjals, he will proceed to obtain *ghee* indirectly through rice. In this transaction, rice will play the role of a medium of exchange. That is to say, the brinjal-man will acquire rice not for the purpose of consumption, but to obtain *ghee* through its medium. Let us take another example. Suppose Spain wants jute from India, but has nothing to offer that India wants. She first obtains cotton manufactures from Britain in exchange for her wine; with these cotton manufactures she obtains her necessary jute from India. Here too

1 *See* Chap. V, pp. 34-35 and p. 39.

2 *See* p. 43.

cotton manufactures serve as the medium of exchange: they are wanted by Spain not for their own sake, but to utilise it as a means of payment to India. The sole purpose of Spain's trade with Britain or of the brinjal-man's with the rice-producer is to make easy an exchange which would not be possible otherwise. But rice or the cotton manufacture is not a *general* medium of exchange; it is only a *particular* medium wanted by some particular parties. For this reason the process of exchange becomes clumsy. It requires that the medium commodity should be obtained and transported in quantities equal to the total value of the goods acquired or given up. It necessitates a double transport of the *medium* good.

Conditions, however, get simpler and better, when we have a *general* medium of exchange, *i.e.* a commodity which is accepted generally by anybody in exchange for any commodity. This commodity that is generally accepted by all as a means of payment is called *money*.

THE FUNCTIONS OF MONEY

It will now be clear that people invented the use of money in order to overcome the difficulties and inconveniences that arise from barter. Money can, therefore, be defined as anything that is universally accepted as a means of payment in discharge of debts and obligations.

The conception of money is rooted in its functions—in what it does. It is usual to distinguish three such functions: as a medium of exchange, as a measure of value, and as a store of value.

Of these three main functions, the first is essentially the true characteristic of money. Any commodity might serve as a measure of value. It is desirable that the commodity selected as the measure of value should have a constant value; but this is not absolutely essential. History shows that while Gold and Silver have been used as media of exchange, wheat and rice have served as the measure of value. At the present time gold is the measure of value, but notes and paper money are the medium of exchange in many countries. Similarly the function of serving as a store of value is not the essential characteristic of money. Society as a whole never cares to preserve the exchange-value of any thing whatsoever: it only cares to preserve, if possible, its utility for the future. Individuals, no doubt, desire to preserve the exchange value; so they hoard money as a future medium of exchange. But whether this hoarded money will retain its present purchasing power (or exchange-value) will depend not upon any intrinsic quality of the commodity chosen as money, but upon the total amount of money in the market, the total amount of goods and services exchanged and the number of times a unit of money passes hands in a year. That is to say, the capacity of money to store value for the future does not depend upon its quality, but upon its quantity and other extraneous circumstances.

The primary and essential function of money is, therefore, to serve the community as the medium of exchange. The success of money to serve as the general means of payment depends upon its acceptability by the people. If a number of men refuse or hesitate to accept money in payment, its utility is gone. Rice, salt, corn, furs, tobacco, leather, cattle,

slaves, shells, lead, gold, silver, copper and other things have been in use in different countries and at different times as the medium of exchange. Each of them could serve as money only so long as the people accepted it generally and unhesitatingly. It ceased to be money and the medium of exchange, as soon as people refused to accept it as the general means of payment for their goods or services. Most goods and services are bought and sold today for money. We, therefore, compare them constantly and regularly with money. The medium of exchange thus becomes the common standard of reference with regard to them all, *i.e.* the standard of value as well. We say that rice sells at Rs. 5 a maund, sugar at Rs. 10 and *ghee* at Rs. 70. We say that we can hire a labourer for 4 annas a day, a house for Rs. 50 a month, or engage a lawyer or a doctor for Rs. 100. This means that the exchange-value is expressed in terms of money, *i.e.* as price. The exchange value of an article or service in terms of money is called its price.

The rise or fall in the value of a commodity or service relatively to other commodities or services can be easily seen in their prices: for money is the common measure of their exchange-values. That is to say, in serving as a medium of exchange money becomes necessarily a measure of the exchange-value of goods and services as well.

Let us remember, then, that the function of money is not only to serve as the medium of exchange, but also a standard of value. A standard value is the unit with reference to which all other values are compared and in terms of which they are expressed and measured. It is, therefore, very desirable that

the value of money should be constant. But, unfortunately, no nation has yet succeeeded in the attempt.

By these two functions, money has greatly facilitated exchange and enlarged the scope of specialisation, each reacting favourably upon the other.

The third function of money, *viz.*, to serve as a store of value, requires that value of money should not deteriorate in value by being stored. Poor people with small incomes hoard money and store it to meet contingencies or future needs. They must not find that time has eaten up a considerable portion of the cake of values they have so painfully stored up.

Another function of money, which is really a corollary of the second, is to act as a standard of deferred payments, that is to say, as a continuous measure of future values as well. If the value of money changes with time, loans and contracts that require future payments would affect either creditors or debtors as a class injuriously. So it is desirable that the value of money should be as stable as possible.

For a proper discharge of all these functions, money should be generally acceptable, easily divisible without deterioration of value even for small payments, and fairly steady in value in the present as well as in the future. It will now be clear why gold and silver have gradually displaced other goods as money. They possess the qualities required of money to a greater extent than any other commodity. They are durable, time does not wear them out quickly; cattle, furs, tobacco and leather do

not answer this purpose at all satisfactorily. Secondly, they are divisible without loss of value: cattle, slaves, many other forms of early money and even precious stones are wanting in this quality. Thirdly, their quantity does not change quickly and hence their value. This is a very important quality in a standard of value. Corn or tobacco changes value with the weather; hides or furs with substitutes or fashion. But gold and silver, on account of their durability, fluctuate very little in value. Their annual output forms a small fraction of the total stock already accumulated and existing. All these qualities, together with their industrial usefulness and popularity as metals for ornaments and ostentation, made gold and silver readily acceptable to the public. There are further reasons that have added to their popularity. Their high density of value to volume has made them portable: they can be carried great distances at little cost. Besides, they can be melted down and put to other valuable uses, if one does not need them as currency.

DIFFERENT FORMS OF MONEY

We have seen " money is what money does ". *Anything which fulfils the wants of society as a medium* of exchange, as a measure and a store of value, and as a standard of deferred payments may be regarded as money. Thus coins, government paper money, bank notes, cheques and bills of exchange are money.

The media of exchange in a country consist of two kinds of money, State Money or Currency and Bank Money or Credit. Coins or paper money issued by the government are the State Money; and bank

notes, cheques and bills of exchange that circulate as means of payment are the Bank Money. Of these, that form of money is legal tender the offer of which a creditor is legally bound to accept in payment of a debt.

COINS

Gold and silver were not at first used as an exchange medium in the form of coins. They were used as lumps or bars of metal. Payments, therefore, had to be made by weight and it was also necessary to test the fineness of the metal, *i.e.*, to ascertain how much base metal it contained as an alloy to it. In order to put a stop to this inconvenience of testing and weighing the metal at every time of exchange, the State undertook to guarantee the weight as well as the purity of the medium. This led to the introduction of coins into the currency. Governments assumed the monopoly of issuing coins and made them legal tender. Usually the Government made a small charge to cover the actual cost of coining the bullion. This means that the face value of the coin would be somewhat greater than the value of its metal-content. This difference between the face value and bullion value of a piece of coin is called *mintage* or *brassage*, if it does not exceed the actual cost of coinage. When it exceeds this cost, it is called *seigniorage*. Seigniorage yields a profit. The Government of India makes an enormous profit out of coining rupees in this way. But the British Government charges nothing for coining sovereigns, not even brassage.

STANDARD MONEY AND TOKEN MONEY

The full legal tender coin, the face value of which is equal to the intrinsic value of its metal-content, is called the standard money or commodity money: for its money value always corresponds with its commodity value and it thus forms the objective standard of the monetary unit or money-of-account, in terms of which debts, prices and general purchasing power are expressed. This being the standard measure of the monetary unit, the values of money of other kinds or forms are always related to it. Thus when the Gold standard was operating in Great Britain, the gold sovereign weighing 123.27 grains, 11/12 fine, (or what comes to the same thing, containing 113.01 grains of pure gold) was the standard money of England and Scotland. This gold sovereign was also the standard money of India, when India was on the gold standard. The standard money is usually either of gold or of silver: in most countries it is of gold. It is always minted by the government as soon as a man presents the requisite amount of metal for it. At present the monetary unit of India is nominally the rupee, weighing 180 grains of silver, 11/12 fine; but really 1s. 6d. of the British Standard.

If coins of two metals like gold and silver are recognised as the standard money with a value ratio fixed by the State, the monetary system is called bimetallic. When the standard money consists of one metal alone, it is monometallic. When law permits the free minting of both metals, a double standard really operates. But of the two metals, say, gold and silver, if the minting of one ceases, although the

coins made of it are still unlimited legal tender, the system is spoken of as limited double standard or bimetallism with limited minting.

Even under monometallism, coins of other metals are generally minted for convenience of transactions. Copper, bronze, nickel or even silver money would be too inconvenient for large payments, while gold money would be equally unsuitable for minting very small coins for the purpose of very small payments. Thus gold Mohurs and silver rupees circulated side by side in Mogul India, though there was no fixed legal ratio between the two. Copper *dam* served to make small payments easy. Smaller payments in every country are now made in silver, nickel, bronze or copper.

Token money or Fiat Money consists of those forms of State Money, the face value of which is always greater than the intrinsic value of its metal-content. It comprises both coins and paper money. Subsidiary coins, meant for small payments, are invariably token coins; *e.g.*, a shilling and a penny in England and four, two and one anna bits and pices in India are token coins. These are not usually legal tender for more than a small limited amount. In England the silver shilling is legal tender up to £2. Our rupees and half-rupees, though token coins, are legal tender upto any amount: one-fourth and one-eighth rupees and nickel and bronze pieces only upto one rupee. The free minting of token money is forbidden everywhere. During 1917-20, owing to the rise in price of silver, the bullion value of the rupee became greater than its face value (money value): and in order to prevent rupees being melted down the

government had to increase its exchange-value (or face value) to 2s. 4d. gold.

PAPER MONEY

Paper money is also to be regarded as token or fiat money, as it has no intrinsic value. Paper money is either convertible or inconvertible.

Inconvertible paper money cannot be converted by its holder into coins or bullion. It is money by virtue of the mere government order. It is issued by fiat or order of the government with no reserve of gold against it. So it has no fixed value in terms of gold or standard money. The Government makes it legal tender and forces its circulation by paying their debts with it and accepting it in payment of all state dues and taxes. The danger that is associated with it is that the issue of an amount in excess of the people's need for a medium of exchange tends to raise prices, that is, to depreciate its value or purchasing power. Secondly, it is useless in international trade, for foreign merchants will not accept any money which they cannot use or exchange with gold.

The danger of over-issue is real in the case of a government in need or at war. And it is sometimes difficult to estimate the amount of currency needed. The demand for money falls as the trade declines and it will change a requisite amount into a redundant one. During the world war 1914-18, paper money was over-issued in some countries to such an extent that they were practically without any value: a million of money in paper notes would not buy even a loaf.

Convertible paper money is issued both by the Government and the bankers. It can always be converted on demand by its holder into standard money or full legal tender coins. Convertible paper money falls into two classes. To one class belongs the United States gold and silver certificates issued against metal, coined or uncoined, deposited with the Treasury. They are issued mainly to avoid difficulties of dealing with large amounts of metal. The reserve for securing their convertibility into standard money is cent per cent.

The other class of convertible paper money differs from the previous class only in that its reserve for securing convertibility is not cent per cent, but much less. Experience shows, and the theory of mathematical probability supports the expectation, that normally all the notes issued by the government or the bank are not presented for encashment at one and the same time. Only a small fraction of the total issue demands payment in cash. The reserve is, therefore, maintained at such a figure only as will ensure payment for so many notes as are likely to demand encashment. The issue of this class of notes represents a great economy in the use of gold or standard money. The risk it runs, however, is that the bank would fail if all the notes were presented at once for cash payment.

The former class of paper money is the convenient representative of standard money, while the latter class is a promise to pay gold or legal tender coins and paper currency. Convertible paper money, when it is not legal tender, is called credit. The Government of India notes are legal tender.

But bank notes of many European countries are not legal tender. So they are known as credit, as they do not represent legal tender money but only a promise to pay this money on demand.

The convertible legal tender paper money Mr. Keynes calls as Managed Money.

The issue of inconvertible paper notes indicates the possibility that the monetary standard need not be a commodity like gold or silver: a paper standard is equally conceivable. During the world war most countries gave up their gold standard and adopted paper standards. Originally, of course, the governments promised to pay gold to the bearer on demand. But when they became inconvertible, the unit of account was no longer a quantity of gold or its purchasing power, but a legal tender paper standard. Custom, habit, and convenience as well as compulsion of legal tender made them function as true money. The unit of account (the monetary standard) was certainly debased in this case: the standard lowered from an amount of gold to a general purchasing power that the paper certificate happened to represent at the time over commodities and services. Though it was debased, it served as real money. This shows that a paper standard is quite possible. Many economists think that it can be made a better standard than gold, under proper regulations and safe-guards.

The advantages of paper money are many. It is handy, portable and extremely economical. Its quantity and hence its value can be regulated at will. The quantity and hence the value of the metal adopted as a standard money, on the other hand, depend upon natural and technological conditions over which no one has any control.

EVILS OF DEPRECIATED PAPER MONEY

But the greatest danger of paper money, as we have seen, is the temptation of its over-issue. An excessive issue depreciates its value in terms of the objective standard adopted by the country, be it gold or silver. Hence it affects its external value, that is, its value as money in terms of foreign currencies. This, in its turn, will affect its foreign trade in imports and exports. The evils of Depreciation are greater still within the country. The excessive issue will depreciate its internal value as well. It will now purchase less commodities and services within the country. That is to say, their prices will rise. People with fixed incomes will suffer in consequence. The wage-earners will not be better off, for wages do not rise as fast as prices. Creditors as a class will suffer also; for debtors will pay them with depreciated paper, the purchasing power of which is now less. Business becomes uncertain and speculative owing to the uncertain value of money. The lessening value of money makes the government revenue inadequate to meet its needs. This forces the government to issue more and more paper money. It leads to the depreciation of money further and further, till the whole system collapses. This was the case with Germany, Austria and Russia during and after the World War.

GRESHAM'S LAW

It was found that when two kinds of legal money circulated in a country at the same time, the more valuable of the two disappeared from circulation. This tendency on the part of the less valuable or *bad* money to drive the more valuable or *good* money

out of circulation is known as Gresham's Law. Sir Thomas Gresham, a finance minister of Queen Elizabeth of England, was supposed, though incorrectly, to have discovered this tendency. So it was named after him and called Gresham's Law. Popularly the law reads: bad money always drives out the good.

When there are two kinds of Standard Money, as in bimetallism, there is generally a fixed legal ratio or mint ratio between the value of the two kinds of Standard Coins, gold and silver. Now a change in the value of gold or silver in the bullion market may make the face value (*i.e.* value as money) of one standard coin differ from its value as a metal. The value of one standard money will thus become less than that of another. The less valuable money is the bad one, and it will drive out the more valuable, the good. Bimetallism had to be given up in Europe as a result of the operation of this law. Sudden changes affected the production of gold and silver and these changed their relative value. Gresham's law thus came into operation, and gold or silver disappeared from circulation at one time or another.

Even a mono-metallic gold or silver standard coin may become bad (less valuable) through clipping, sweating and debasement. The government sometimes lessens the weight of the standard metal or increases the proportion of the base metal in the coin. This is called debasement. This bad coin then circulates or serves as the medium of exchange. The full-weight coins are hoarded, melted down and exported to foreign countries. People will naturally store for the future coins which are more valuable;

and foreign merchants and traders will never accept coins except at their bullion value. So good coins cease to circulate.

Gresham's law may also operate in the case of depreciated paper money. The excessive issue of paper money, as we have seen, lowers its value. It then becomes bad money. If a ten-rupee note cannot be changed for ten silver rupees, its value depreciates in coins. Coins then disappear, and paper alone takes their place.

Let us note, however, that Gresham's Law can only operate, when the following two conditions are present. First, there must be no scarcity of total currency to serve as the medium of exchange. For if the people require both *bad* and *good* money to meet the necessities of their trade, there will be no opportunity for them to hoard or export. If the government does not allow the free minting of coins and regulates the amount of their circulation, as in the case of subsidiary token coins, the value of coins cannot fall and hence Gresham's law cannot operate. Secondly, the people must not oppose the circulation of bad money. If the community refuses to accept the *bad* money on any account, the *bad* money will not find its way into the circulation at all.

Chapter XX

BANKS AND BANK-MONEY

There was a time when Bank Money was unimportant as a means of payment, and as a medium of circulation. But the importance of bank money is growing day by day. In Great Britain and the United States it constitutes today as much as 90 per cent of the total medium of exchange. Bank money and banking are still undeveloped in our country. But they are developing rapidly.

The first thing to remember with regard to Bank Money is that it is not money proper, like the State Money that we studied in the previous chapter. It is a substitute for metallic standard money or legal tender money: it is a mere promise to pay the commodity money on demand.

We have seen already that nothing can serve as money, unless it is generally accepted. In the case of inconvertible paper money, acceptibility is secured by Government authority which makes it a legal tender. But even the Government command or law, as we have seen, cannot make it acceptable at par. Paper Money often depreciates in terms of gold or commodities. Bank Money is not a legal tender. Its acceptibility depends on the *trust* that it can be readily converted into gold. Bank Money is, therefore, called credit; for its function as money depends on the confidence that the promise it contains of conversion into commodity money or "cash" will be redeemed without fail. Credit may be regarded as a promise of legal payment (in standard money when demanded), as

distinguished from " cash " which constitutes the payment itself. Credit implies *trust* in one's *promise* of payment.

Bank notes, cheques and bills of exchange are, therefore, known as instruments of credit. Like Government paper money, these credit instruments of paper are useful to society; for they are less expensive. We have seen how money has facilitated exchange. But if all the increasing volume of exchanges were to take place through gold and gold alone, the world would have required much more gold. Gold would have been more costly in that case, and few countries would have been able to provide sufficient currency for their trade and commerce. Present facilities of exchange and hence of division of labour would have been considerably curtailed. These credit instruments are, therefore, of great benefit to the community: they facilitate exchange at a cost much less than gold. Moreover, like all paper money, it is more convenient to carry or keep and safer and cheaper to transport.

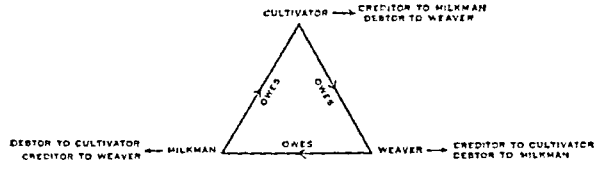
The question is that bank notes, cheques and bills of exchange are all promises to pay standard money or gold. So how can they economise the use of gold? The fact is that a man does not run to the bank for encashment of his credit paper whenever it comes to his hand. Just as he receives it in payment of his claims, *e.g.* wages of his labour, he pays other people in payment of his debts to them, *e.g.* to pay rents and the prices of goods and services purchased. The credit instrument circulates in this way from hand to hand. To the extent it circulates as a medium of payment, it avoids the use of coins and metallic

money. This circulation, no doubt, depends on the trust that the payee places upon the debtor's promise to pay legal money whenever he would demand. This trust lacking, no creditor will accept a verbal promise or a promissory note or a cheque from a debtor. It is the payee's trust in the promise of the debtor that makes the credit paper pass from one person to another: and this circulation results in the saving of coins or of gold being coined. An illustration or two will make it clear.

Suppose, a cultivator in a village takes the necessary cloth for his family from a weaver and promises payment when his harvest is reaped and sold: the weaver, on his part, takes the necessary corn to maintain his family and promises payment after the harvest, when cultivators as a class will pay him for cloth purchased on promise of future payment or credit. Now if it happens at the time of payment that the cultivator owes the weaver Rs. 20 and the weaver owes him the very same amount, their claims and debts cancel each other. No coins are necessary to clear their accounts. But in case one owes Rs. 20 and the other only Rs. 15, the balance of Rs. 5 need only be paid in coin. Credit thus avoids the use of coin to the full extent of the transactions, *viz.*, rupees twenty *plus* fifteen or thirty-five rupees; it needs coins only to the extent of the balance outstanding.

Let us take another example. Suppose credit now takes the form of a written promise on paper: "I promise to pay you so many rupees on such a date." The cultivator buys cloth from the weaver on a promissory note of this kind. Similarly the weaver buys his milk from the milkman and the milkman

buys corn from the cultivator. Every one of them accepts the promissory note, for each finds it convenient and because every one trusts the promise of one's debtor. When the time for payment comes, suppose it is found that each of these men has signed promissory notes of Rs. 20. Instead of coins, the cultivator

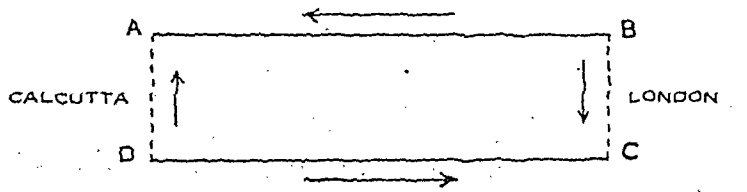


asks the weaver to accept his claim over the milkman's promissory note. The weaver accepts this note, for he owes the milkman an equivalent amount. The weaver's acceptance of this note settles his account with the cultivator. The weaver in payment of his debt now transfers this note to the milkman which absolves the latter from paying the cultivator. A transaction of Rs. 60 is thus settled without any coin. If the respective claims failed to balance, only the difference would be paid in cash.

These examples illustrate the possibility of credit dispensing with coins for the settlement of debts or to effect purchases and sales. But the scope of transactions on this kind of personal credit is necessarily limited. You cannot sell to or purchase from any unknown man in this way: this means that transactions will be confined to a limited circle. Secondly, even if a man's credit is good, you cannot sell to him if he promises payment at a time that is

too long for you to wait. Difficulties of this kind would seriously restrict the use of credit. So banks have come into being to expand its use. The fundamental function of banks is to facilitate the use of credit documents and thus to reduce the need for coin or cash.

If we take another kind of credit paper, known as the bill of exchange, we shall find that it reduces the need for gold in international payments in a similar manner. For example, a merchant A in Calcutta has a claim for £1,000 against a merchant B in London, and another merchant C in London has a claim for an equal amount against a second merchant D in Calcutta. Instead of shipping gold twice across the seas, A and C, with the consent of B and D, may transfer their claims in such a way that the payment in question needs only be made from one firm of Calcutta to another; and so in London. The following diagram will make it clear:



Suppose, instead of shipping gold to A, B buys a bill which C has drawn on D. C gets his payment by the process. B now sends this bill to Calcutta in payment to A. A recovers his claim from D in Calcutta. This arrangement is cheaper for merchants, as it saves them the cost of shipping gold and insurance. It is economical for society, as it avoids the

use of gold: for internal payments in a country require no gold. In actual business, however, A may not consent to recover his claim from D for some reason or other: or B and C may not know each other. Again, if the interval for credit is long, merchants may have to face other difficulties and risks. The agency of banks is thus necessary to meet these difficulties and make the bills more acceptable and popular.

ORIGIN OF BANKS AND BANKING

Formerly when there was no strong or stable government, when the rule was

> " Let them have who have the power,
> Let them keep who can "

and money or property was the constant object of theft and plunder, people preferred to keep their money and valuables with the goldsmith who agreed to keep them for safe custody for a payment. Sometimes they went on a pilgrimage and a long time elapsed before they returned home: on such occasions also they entrusted the goldsmith with their savings and valuables. The goldsmith always made a charge for safe custody, just as a bank does today in the case of ornaments and title deeds deposited. When a depositor wanted to make a payment to anyone, he would withdraw a part of his money and pay it to the man, who would sometimes take this money to the same goldsmith for safe deposit. In course of time this system of withdrawal for making payments proved inconvenient, and a better method took its place. To facilitate payments, a receipt for the deposit was so

devised that it would allow payment to be made to anyone who presented the receipt. But it did not meet all the necessities of withdrawal for making payments. A man's deposit might be large, but his payments many and small. Here a depositor needed several receipts for smaller sums instead of a single receipt for his entire deposit. The goldsmith's receipts of this type may be regarded as the earliest form of bank notes. Cheques came into use much later.

The goldsmiths gradually discovered that a large portion of the money deposited with them never left their coffers and they could safely lend a part of this untouched reservoir to good and sound borrowers at interest and thus make a profit. This is the origin of banking and credit. By giving loans of this kind the goldsmith became a banker.

The origin of banking thus lies in the discovery of the fact that all depositors do not draw their deposits at one and the same time and that a considerable part of the total deposits lies idle in this manner in the hands of the person who is trusted with the deposits.

The relation of banking to credit will be clear if we remember that the business of a banker is to create such instruments of credit or " promises to pay " as the public will accept in satisfaction of their claims. In granting loans from public deposits, the goldsmith-bankers gave their " promises to pay " obviously in a greater volume than that of the actual gold they held in deposit. These bank-notes or " promises to pay " were not, therefore, representative money like the present-day gold and silver certificates of the United States: they were really credit documents. The

supply of credit notes was in fact the aim of all the early deposit banks and banking. It is then clear that banks create credit by loans.

EVOLUTION OF THE INSTRUMENTS OF CREDIT

The bank note proper came into being in the seventeenth century. But the principles of a safe note-issue was only clearly understood by the middle of the nineteenth century. By trial and error of countless experiments that spelled disaster to banks and note-holders alike, there has gradually come into being a system of note-issue that can meet today almost all requirements of the community.

The early form of notes that the goldsmith banker granted to the depositor was something like this: "I promise to pay unto Mr. A or bearer seventy pounds on demand." The borrowers too might receive notes of this kind. Modern bank note reads as follows: "The Chicago National Bank will pay to the bearer on demand fifty dollars."

Cheques, as an instrument of credit, appeared much later. The depositor of a bank today may either take out his money in the form of bank notes or may draw cheques upon his deposit account. A depositor takes notes or uses cheques according as it suits his convenience. Let us remember, however, that the right of issuing notes is now mostly confined to the Central Banks. In America cheques now make payments that are five times as large as those made by bank notes. A modern cheque reads, as shown below:

LLOYDS BANK LIMITED, CALCUTTA.

Pay Mr. A or bearer (order) Rupees One hundred annas four and pies six only.

Rs. 100-4-6.

Signature of the Drawer.

Bills of exchange are used both in internal and foreign trade But they arose, as we have seen, in international trade and are the most usual method of making foreign payments.

A Cheque is an order on the bank for payment. A creditor usually accepts a cheque, provided he is sure that the debtor really has a bank account and a bank balance, and that the bank will never fail in payment. But the promissory notes of an individual or a bill of exchange drawn by one merchant upon another, are not so readily accepted by the public as we have seen before (pp. 148-50). These notes are more acceptable when they are issued by banks: for banks are better known than individuals and people trust them more. Similarly bills of exchange, even when drawn upon unknown merchants, easily circulate, when a bank *accepts* the bills, that is, when a bank undertakes to make payment on behalf of the debtor merchant.

GROWTH OF THE BANKING SYSTEM

The banking system thus grew up in the process of overcoming the difficulties that lay in the way of a general use of credit as a medium of exchange. Cancellation of indebtedness is better done by the

banking system. A few illustrations will make it clear.

Suppose there is only one bank in a town or village. All citizens keep their accounts with it. The cultivator can pay his rent to the landlord by drawing a cheque on the bank, and not a draft on himself. The cobbler similarly pays the cultivator for corn by a cheque; and the landlord the cobbler for shoes. All their accounts are debited and credited, as they pay or receive an amount. Thus at the bank the claims and debts of every member are cancelled to the extent that they balance each other and the difference only credited or debited to his account. No coins are needed to settle their claims.

Now suppose there are two banks instead of one. The oilman, the milkman and the barber open their account with the second. If the landlord wants to pay the milkman, he draws a cheque on the first bank, and hands it to the milkman who deposits it with the second bank, of which he is a client. By a previous arrangement the representatives of the two banks meet and present their respective clients' claims against each other. The difference, if any, need only be paid in coin.

Even this need of cash payment disappears, when all the banks of the locality set up a Clearing House. The Clearing House system is indispensable in modern banking. The representatives of all banks meet at the Clearing House every day once, twice or three times, balance their mutual claims and pay the difference; not in coin but by drafts or cheques on the deposits that each bank keeps with a great bank, known as the Central Bank. The Central Bank acts

as the bank of all bankers. Just as the single bank of a village adjusts the clients' claims by means of book entries, the Central Bank settles the claims of each bank against every other by means of book entries without the help of coin.

FUNCTIONS OF BANK

The general function of banks may now be stated as creating a new medium of exchange other than metallic money, facilitating the use of credit in place of coins by ensuring its convertibility into standard money whenever demanded. Their incidental functions are many, of which three are chief: (*a*) receiving deposits, (*b*) granting loans, and (*c*) discounting bills of exchange. The privilege of issuing notes is not now given to ordinary banks: it is confined to the Central Bank alone. In England the Bank of England alone can issue notes. In our country the newly established Reserve Bank has been empowered to issue notes as the Central Bank of the country. In addition the bank acts as an agent for customers and other banks in collecting dues and making payments, in buying and selling stocks and shares. It also acts as trustees, executors and attorneys, issues letters of credit to travellers, deals in foreign exchange, and serves as correspondents of other banks.

Without taking deposits from the public, banks cannot lend sufficiently and earn profits. Deposits, however, confer a benefit to small savers whose individual accumulation is too small to lend, and to others who do not know how or where to invest safely. The bankers collect by deposits the small surplus incomes of individuals into a reservoir large enough to meet the needs of entrepreneurs in industry and commerce.

By loans and the credit system, the bankers finance production that entrepreneurs mostly undertake today in anticipation of demand. All business men need some working capital to go on: they want a loan of money *now* on the security of their products that will be ready *some time later*. Bankers meet this need of business men and grant them credit; that is, they give money now on the promise of its return later. Thus we see that bank credit enables a business man to realise *at present* a portion of the value of his *future* product.

The discounting of bills of exchange also assists the business man in a similar manner. An exporter of jute from Calcutta to Dundee will get his payment, say, 90 days later. But he wants the money now to carry on his business. So he approaches a bank with his bill of exchange drawn upon the Dundee merchant (properly accepted) and the bank discounts the bill, that is to say, pays the amount of the bill with interest of the sum deducted for the period that intervenes between the date when the bank pays the exporter and the date when the Dundee merchant will pay the bill. Discounting also means then an advance of money made by the banker with interest deducted at the time of payment.

The function of credit instruments, it is now easy to see, is not only to facilitate exchange, but also to finance production in anticipation of demand by credit or loans. The extent of credit that can be created by banks or the amount of loan that can be granted by them depends upon their capacity to meet the public demand for cash. Anyone who has an account, whether by deposit or by loan, has the right to draw

cheques or demand cash against them. A bank has to keep, therefore, a cash reserve large enough to meet all their clients' probable demand for cash. The American banks are required by law to have a 25 per cent reserve. The English banks have no such fixed proportion. As a matter of fact, no fixed proportion can indicate the margin of safety. The banks must be always on the watch as to the likelihood of any unusual demand for cash; they have to strengthen their reserve accordingly. One general rule, however, is: the greater the reserve, the more they can lend. But how much or to what proportion to the reserve they should lend, it is impossible to say *a priori*: practical experience of the locality and a correct reading of the temper of its environment are the only guides.

CHAPTER XXI

MONEY AND PRICES

The changing Money Value and the Index Number of Prices

The price means the amount of money for which a unit of a commodity exchanges in the market. The exchange value of a commodity or service in terms of money is its price. Money is thus the standard or unit in terms of which prices are expressed. The rise or fall in the value of a commodity or service relatively to any other commodity or service can, therefore, be easily seen in their prices.

But if we want to find out changes in the exchange-value of a money unit or of a given money income in terms of the various commodities and services exchanged in the market, the task will be rather difficult. A clerk earns an income of Rs. 50 a month in Calcutta: Is he better off or worse today than he was ten years ago? You will find that prices of some goods and services have gone up, while others have come down. The change of price in some cases is large, and in others small. All the prices again do not affect his expenses equally. He spends comparatively much for food, less for rent and clothing, and least for soaps and perfumes. All these considerations have to be taken together and carefully weighed, before you can decide whether his economic position is now better or worse. This is because in the case of money we have no definite standard to compare with. The value of money is its purchasing power over commodities and services. If the price of sugar is

4 annas a seer, the value or purchasing power of a rupee is 4 seers of sugar. The purchasing power of money and the price of a commodity are thus reciprocals of each other.

Price of a seer = 4 annas = Re. $\frac{1}{4}$.

Purchasing power of a rupee = $1/\frac{1}{4}$ = 4 seers.

$\frac{1}{4}$ and 4 are reciprocals to each other.

So if we can calculate the *average* change in the price of a very large number of commodities purchased, it will give us approximately the change in the value or purchasing power of money. The average change in the prices of important articles or services is calculated by what is called an Index Number of prices. A large number of goods as well as services are so chosen that each represents an important group of consumption; their average prices in a given year are taken as the basis of comparison, the index for that year being regarded as 100. When their general average rises by 10 per cent. in a certain year, the index number for that year will be 110: if it falls by 10 per cent. the index number is 90. The index number so calculated by a simple average of prices is called the simple or *unweighted* index number. But poor classes spend about half of their income upon food, and very little upon silk or silver (ornament). So if the price of food rises by 10 per cent and silk falls as much, the average of prices or the index number would not indicate any change. The purchasing power of the poor man would nevertheless be affected considerably. To remedy this defect, a *weighted* average of prices is often taken instead of a simple average. The average is calculated here of prices, each of which is *weighted* or multiplied by a

number which represents the importance of the article in consumption relatively to other commodities or services. The weighted index number, therefore, gives a more faithful picture of the changing price level of goods and hence of the change in the value of money.

THE VALUE OF MONEY AND THE QUANTITY THEORY

What are the causes of the change in the value of money? Money is used for buying and selling goods and services, for effecting all kinds of exchanges. The total volume of transactions or trade, however, depends on two elements: the quantity of goods that changes hands and the number of times it does so. For instance, a farmer sells 100 maunds of jute at Rs. 5 per maund to a middleman (*Fariah*) who sells them to a wholesale dealer and the wholesale dealer to Messrs. Ralli Bros. The total price of the goods is Rs. 500, but they change hands three times, and so the total transactions amount to Rs. 1,500. The amount of money required for effecting exchanges thus depends on the total volume of trade or transactions. But the same piece of coin or note or cheque may serve to make payment as many times as it changes hands. For example, suppose I pay a rupee to the cobbler who mends my shoes, the cobbler pays the same to the grocer, the grocer to the milkman and the milkman to the landlord. The rupee thus makes *four* payments and does the service of 4 single rupees. The number of times a piece of money (coin, note, cheque or bill of exchange) makes payments in a year is called its *velocity* or *rapidity* of circulation. The total volume of trade or transactions is thus effected by the total amount of money in circulation together with its *average* rapidity of circulation. Let T denote

the total trade or transactions, M the amount of money and R its average rapidity of circulation. The value of money, V, that is to say the value of a money unit, is thus equivalent to $\frac{T}{M\,R}$, the quantity of goods in general that it exchanges for.

$$V=\frac{T}{M\,R}$$

or, the value of a unit of money = the quantity of goods in general that it exchanges for. The value of money thus changes as the total volume of trade or the amount of money or its rapidity in circulation changes.

Let us remember that the general price-level $P=\frac{1}{V}$: for the price of goods and the value of money are reciprocals to each other. Hence it follows that

$$P=\frac{1}{V}=\frac{M\,R}{T}$$

or $PT=MR.$

This is obvious: for we can look upon the total value of monetary transactions from two different points of view. On the one hand, it must be equal to the total volume of goods (T) that change hands in a year, multiplied by their average price P (which we call the general level of average prices or the general price-level). On the other hand, it must be equal again to the total amount of money (M) which is used for payment, multiplied by the average number of times (R) each unit of money serves as a means of payment.

The value of money given above refers to the internal value of money within the country, its

purchasing power. Its external value, sometimes referred to as "the rate of foreign exchange," depends on the amount of gold which forms its objective standard. The Par of Exchange or the Mint Par of Exchange means the gold equivalent of the standard money of one country in terms of that of another. Thus formerly an English sovereign had the same amount of fine gold as 4.866 dollars of the United States and the Mint Par was £1 = $ 4.866. In the case of countries that have no gold standard and use silver or inconvertible paper as their currency, the par of exchange will be determined by the value of silver or inconvertible paper currency in terms of gold. The purchasing power and the par of exchange should always be distinguished as the internal and the external value of money.

Let us remember that the level of prices and the value of money both indicate one and the same relation. A rise in prices means that a unit of money would now buy a less amount of things; there has been a fall in the value of money. A fall in prices similarly is a rise in the value of money. We should never imagine nor say that one is the cause of the other. That will be senseless.

The value of money, like the value of a commodity, depends on the relation between the demand and the supply. In the equation given above, we have seen that

$$V = \frac{M\,R}{T}$$

The supply of money is denoted by M and consists of gold and credit money like notes, cheques and bills which are all of them promises to pay gold. An

increase in the supply of gold, we have seen, increases the supply of credit or bank money; and hence the supply of total money in circulation. This lowers the value of money or increases the general level of prices. The demand for money depends upon the volume of exchange transactions or trade and is indicated by T. This volume of trade, let us repeat, depends both on the volume of goods produced and the frequency of their exchange. An increased demand for money is usually met by the banks creating credit. The rapidity of circulation is largely a matter of social habit and cannot be changed at will by any agency. Credit again is limited by the amount of gold that the banks can hold at their reserve. Ultimately, therefore, the value of money changes with the increase of gold in a country relatively to the increase of other kinds of goods produced and acquired by it.